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TRANSPORTATION ELEMENT

City of Martinez

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Prepared by
Barton-Aschman
Associates, Inc.

January 1992
Adopted 2-24-92

RESOLUTION NO. 28-92

ADOPTING TRANSPORTATION ELEMENT
OF THE GENERAL PLAN, G.P.A. NO. 91-2

WHEREAS, Measure C requires that levels of service standards be adopted for all streets within the City; and

WHEREAS, the City has determined that the Circulation Element of the City was in need of review; and

WHEREAS, the City recognizes that a balanced transportation system is essential for reducing traffic congestion and thereby improving the quality of life for Martinez residents; and

WHEREAS, an Initial Environmental Study was completed on the draft Transportation Element and no significant environmental impacts were identified and a Negative Declaration was proposed; and

WHEREAS, the Planning Commission held a public hearing on May 23, 1991 on the draft Transportation Element and recommended adoption of the Negative Declaration and draft Transportation Element.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Martinez adopts a Negative Declaration for the Transportation Element of the General Plan; and

BE IT FURTHER RESOLVED that the City Council adopts the Transportation Element of the General Plan, G.P.A. No. 91-2.

* * * * * * *

I HEREBY CERTIFY that the foregoing is a true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at an adjourned regular meeting of said Council held on the 24th day of February, 1992, by the following vote:

AYES: Councilmembers Farley, McDowell, Woodburn, Vice Mayor Smith and Mayor Menesini

NOES: None

ABSENT: None

GUS S. KRAMER
City Clerk

By: Sherry M. Kelly
Sherry M. Kelly
Deputy City Clerk

217.59

INTRODUCTION

The City of Martinez Transportation Element is an amendment to the General Plan and replaces the 1973 Circulation Element. The Element also updates the circulation components of the Alhambra Hills Specific Plan, Central Martinez Specific Area Plan and the John Muir Parkway Specific Area Plan.

The Transportation Element meets the requirements for the circulation element as stated in California Government Code Section 65302(b): "The General Plan shall include a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public utilities and facilities, all correlated with the land use element of the (General) plan."

The Element satisfies the requirements for identifying the location and extent of existing and proposed major thoroughfares and transportation routes in Chapter 1, **Existing Conditions,** and Chapter 4, **Street Plan.** As indicated in these chapters, the City of Martinez has nearly reached build-out; therefore, few new arterials or thoroughfares are expected to be added to the street network. There is more emphasis on maintaining and improving existing facilities.

The location of public utilities and facilities can be found in Appendix A.

Circulation and land use have been correlated through the use of a traffic model which analyzes the impacts of existing land uses and general plan build-out. Performance standards such as levels of service and volume to capacity ratios are based on the relationship between land use and roadway capacity. (Chapter 2)

The Transportation Element also recognizes the need for a broad approach to address local and regional transportation issues. The City supports the development of a balanced transportation system and includes plans, goals and policies for bikeways, rail, ferry and transit and parking facilities. (See Chapters 1, 3 and 6). The primary goal of the City is to relieve traffic congestion while conserving scarce resources.

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1.
Existing Conditions

This chapter describes the transportation systems within the City of Martinez including the roadway network, the intersection levels of service, origins and destinations of afternoon peak trips, and the transit system including AMTRAK and bus service.

Roadway Network

The existing roadway network in the City of Martinez is presented on Figure 1-1. The street classifications are shown on that figure as are the locations of all traffic signals. The major streets are briefly described as follows:

Alhambra Avenue is the major north/south thoroughfare in Martinez, running between the downtown area in the north and beyond the city limits into Pleasant Hill to the south. Alhambra Avenue forms a one-way couplet with Berrellesa Street in the downtown area. South of downtown, it has four travel lanes plus a center two-way left-turn lane to Highway 4, where there is a diamond interchange. South of Highway 4, Alhambra Avenue has two travel lanes, with a median near major intersections. The road has four travel lanes with a median south of Benham Drive.

Pacheco Boulevard provides access to downtown Martinez from I-680 via an interchange at Arthur Road. Most of Pacheco Boulevard is in the county rather than the city. The portion of Pacheco Boulevard from Arthur Road to Morello Avenue is generally rural in character with two lanes and no curbs; from Morello Avenue to Shell Avenue, the street is fully developed to four lanes with a two-way left turn lane. The city portion of Pacheco Boulevard, which transitions into Pine Street and Court Street, passes through a residential area with constrained right-of-way that allows for only two lanes and no median.

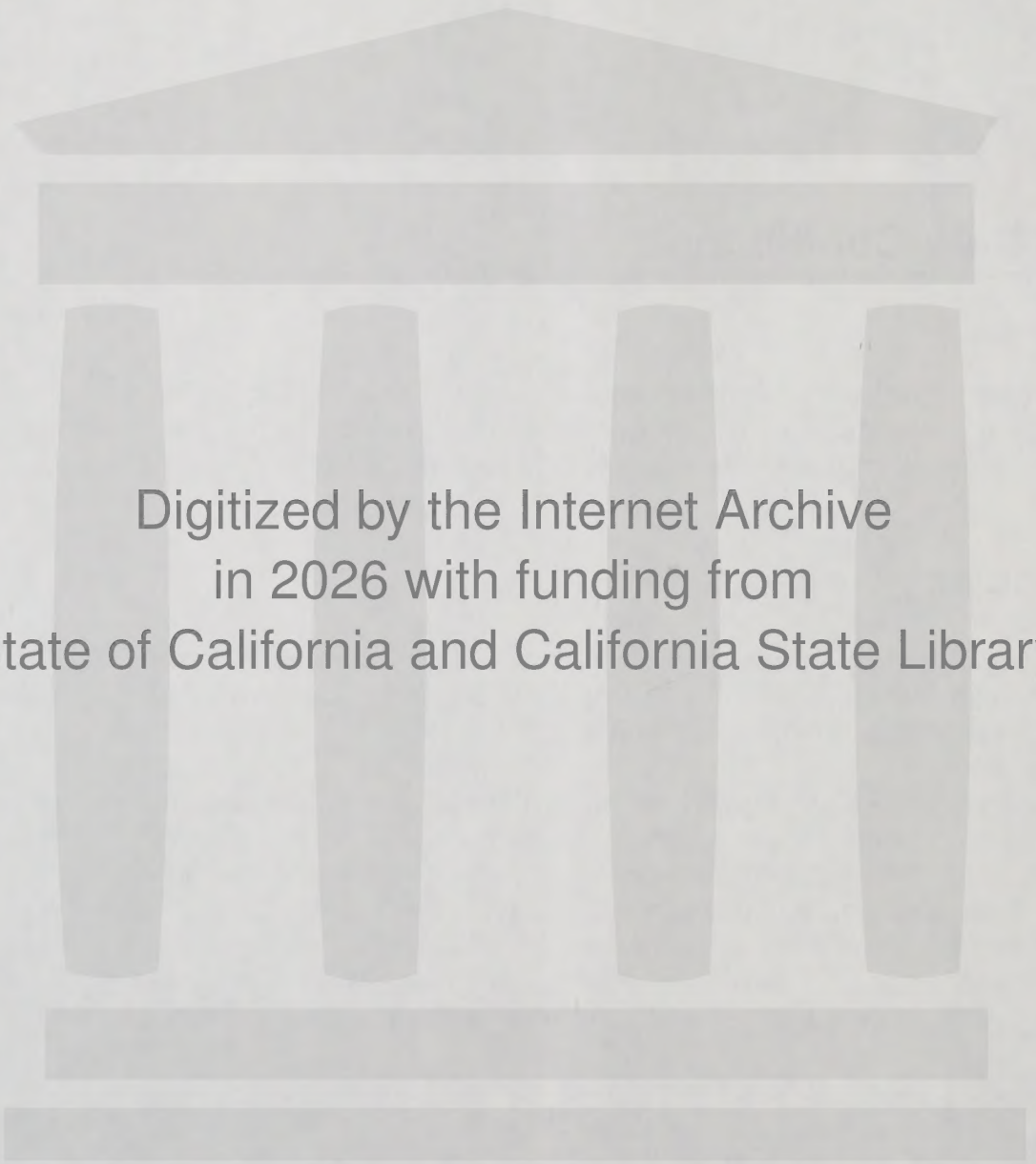

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Figure 1-1

EXISTING ARTERIAL NETWORK

Figure 1-1A

EXISTING ARTERIAL NETWORK

Marina Vista also connects downtown Martinez to I-680 via an interchange at Marina Vista/Waterfront Road. Marina Vista has two lanes with a left turn lane from the Escobar/Marina Vista couplet to Shell Avenue. The two-lane road transitions to four lanes east of Shell Avenue and then narrows back to two lanes east of I-680 where it becomes Waterfront Road. Within the downtown, it forms a one-way couplet with Escobar Street.

Morello Avenue runs north/south from Pacheco Boulevard into Pleasant Hill, and has a diamond interchange with Highway 4. The portion north of Highway 4 is mostly in the county, although this area is planned for annexation to the City. The road has a rural, two-lane design. From Highway 4 south, Morello Avenue is fully developed with two lanes and a two-way left turn lane to Vine Hill Road and median turning pockets to Chilpancingo Parkway. Morello Avenue also has bike lanes, curbs, and sidewalks.

Center Avenue has a diamond interchange with Highway 4 and runs from there to Concord via an underpass with I-680. Center Avenue is fully developed with two lanes and a median, bike lanes, curbs, and sidewalks. From Begonia Avenue east, this street is a county road.

Howe Road connects to the Center Avenue interchange with Highway 4 and runs from there to Pacheco Boulevard. It is mostly an industrial street with two lanes and a two-way left turn lane, but no bike lanes and, in some areas, no curbs, sidewalks or paved shoulder.

Arnold Drive and *Muir Road* both parallel Highway 4 as frontage roads, with Arnold Drive on the north. Both are improved with two lanes, curbs, and bike lanes, although the Muir Road bike lanes exist only east of Kaiser Hospital. Arnold Drive has a two-way left turn lane, while Muir Road does not.

Chilpancingo Parkway connects Martinez to Concord and has an interchange with I-680. Only a small portion is within the Martinez City Limits. Chilpancingo is fully developed with two lanes and a median, bike lanes, curbs, and sidewalks.

All other streets in Martinez have two lanes, undivided and are classified as collectors or local streets. Many of the streets such as Susana, Shell Avenue and Alhambra Valley Road function as collectors, but have not been built to collector standards. Many of the collectors serve residential streets and thus cannot be widened or have parking restricted.

Intersection Levels of Service

The operating conditions of the key intersections in the City of Martinez were evaluated with level of service calculations. *Level of service* (LOS) is a qualitative description of an intersection's operation ranging from LOS A, or free-flow conditions, to LOS F, or jammed conditions. The City of Martinez, under Measure C requirements, defines an acceptable intersection level of service as follows: LOS C for rural and semi-rural roadways, LOS D for urban and suburban streets, and LOS E for the Central Business District.

A signalized intersection's level of service can be calculated by a number of methods. The *Circular 212* Planning methodology was used for this analysis. This method is based on critical intersection movements. Although the critical movement can vary at each intersection, it is usually the left-turn movements and opposing through movements that are critical. The volumes of cars on the critical movements are summed and divided by the total intersection capacity. This calculation yields the intersection's volume-to-capacity ratio (V/C), which is then correlated to a level of service (see Table 1-1).

Manual turning-movement counts were conducted during the afternoon (PM) peak hours to determine the existing traffic volumes at selected key intersections throughout the city and at two county intersections immediately adjacent to the city. The key intersections are shown on Figure 1-1. All are classified as urban or suburban and, as such, have a LOS D standard. PM volumes give a "worst case" picture of the level of operation of an intersection and as such are considered to be the most appropriate. As can be seen on Table 1-2, there are no intersections in the city that operate at less than a Level of Service C in the PM peak. These levels of service are well within the acceptable standard under Measure C.

Table 1-1
Intersection Level of Service Definitions

Level of Service	Interpretation	V/C Ratio
A	Uncongested operations; all queues clear in a single signal cycle.	Less Than 0.60
B	An occasional approach phase is fully utilized.	0.60-0.69
C	Occasional backups on critical approaches.	0.70-0.79
D	Delays to vehicles may be substantial during short peaks but periodic clearance of queues prevents excessive backup from developing.	0.80-0.89
E	Capacity conditions with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Sustained delays and backup.	0.90-0.99
F	Total breakdown, stop-and-go operation.	1.00 and Greater

Table 1-2
PM Peak-Hour Intersection Levels of Service

Intersection	Date of Count	V/C	LOS
Morello Drive/Arnold Drive	11/6/90	0.63	B
Morello Drive/SR 4 ramps (north)	11/6/90	0.71	C
Morello Drive/SR 4 ramps (south)	11/6/90	0.67	B
Morello Drive/Muir Road	11/6/90	0.64	B
Pine Street/SR 4 ramps (north)	11/8/90	0.59	A
Center Avenue/SR 4 ramps (south)	11/8/90	0.59	A
Center Avenue/Muir Road	11/8/90	0.68	B
Pine Street/Howe Road	11/7/90	0.43	A
Arnold Drive/Howe Road	11/8/90	0.39	A
Alhambra Avenue/SR 4 ramps (north)	11/7/90	0.74	C
Alhambra Avenue/SR 4 ramps (south)	11/7/90	0.78	C
Marina Vista/I-680 ramps (east)*	11/7/90	0.78	C
Marina Vista/I-680 ramps (west)	11/7/90	0.31	A
Arthur Road/I-680 Pacheco exit*	11/8/90	0.60	B

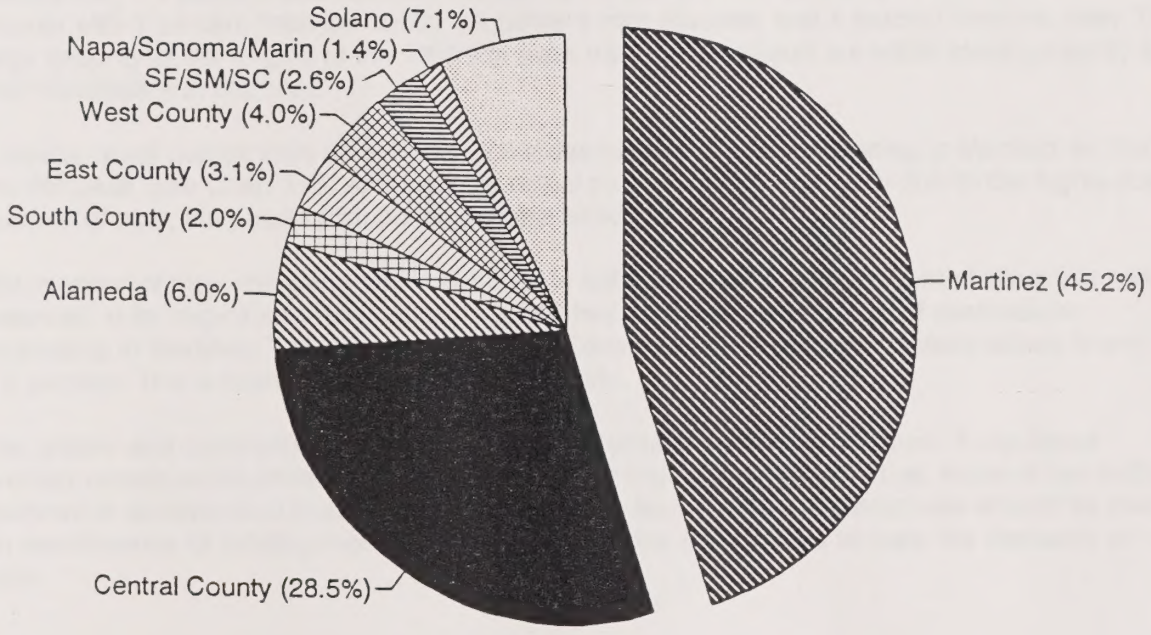
V/C = Volume-to-capacity ratio.
LOS = Level of service.
* County intersection.

Origins and Destinations of 1990 PM Peak Trips in Martinez

An analysis of the 1990 PM peak vehicle-trips in Martinez was performed to determine their origins and destinations. This analysis was performed using the Contra Costa Countywide Transportation Model previously developed for the Contra Costa County Community Development Department for use in their general plan. The network was modified to include more detail and greater accuracy within the City of Martinez and adjacent county areas. Additional roads were added to the network. The updated network was analyzed to determine the origins and destinations of the PM peak trips in Martinez.

In the first instance, the analysis looked at the origin of the trips with destinations in Martinez (see Chart 1-2). This figure shows that nearly half (45.2 percent) of the trips destined for Martinez also originate in Martinez. The large percentage of trips beginning and ending in Martinez can be attributed to two factors. First, the high number of residents employed within the city at such

Origins of PM Peak Vehicle Trips
With Destination in Martinez, 1990
Chart 1-2



locations as the county government facilities, Kaiser Hospital, the Veterans Hospital, and the Shell refinery. The second factor contributing to the strong intracity trips can be attributed to local residents and employees making trips within Martinez that are either intermediate between their origin and their ultimate destination or are errand-type trips. In other words, someone may leave home or work in Martinez and proceed to the grocery, the babysitter, school, the dry cleaners, or some other intermediate stop before continuing home. This type of trip would begin and end within the city, thus contributing to the high percentage of intracity trips. While all cities experience the same type of intermediate trip-making, Martinez exhibits it to a much higher degree than most.

The second largest group of trips destined for Martinez originated in the Central County area (28.5 percent). These trips are commuters coming home from work. As Central County areas are nearby and housing costs are somewhat more modest in some parts of Martinez, it would be logical to expect this large percentage.

The other areas each contribute less than 10 percent of the incoming trips to Martinez. Solano County with 7.1 percent and Alameda County with 6 percent nearly meet the rest of Contra Costa County with 2 percent from the south, 3.1 percent from the east, and 4 percent from the west. The large majority of the origins of the 1990 PM peak trips (73.7 percent) are within close proximity to their destination in Martinez.

A similar result comes from an analysis of the destinations of trips originating in Martinez in 1990 in the PM peak (see Chart 1-3). Although the actual percentages vary slightly due to the higher total number of trips, the overall distribution remains strikingly close.

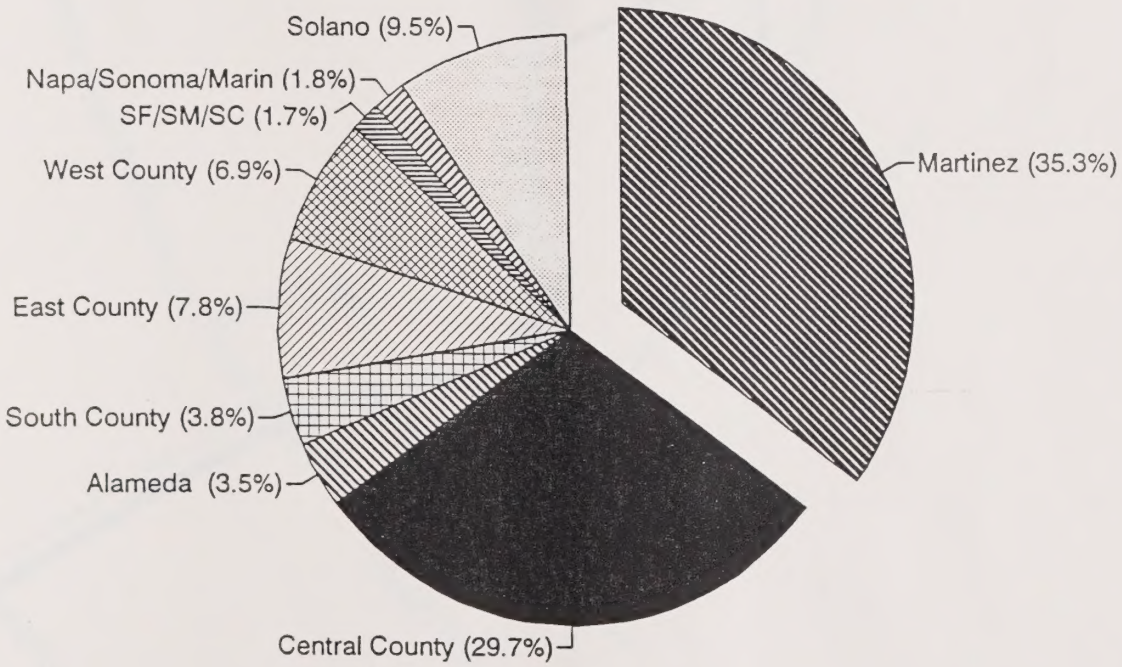
The number of trips remaining within Martinez is still high at 35.5 percent. Central County is nearly balanced in its origins and destinations and still has the next largest group of destinations originating in Martinez. The difference between Central County's origins and destinations is only 1.2 percent. This amount represents a virtual match.

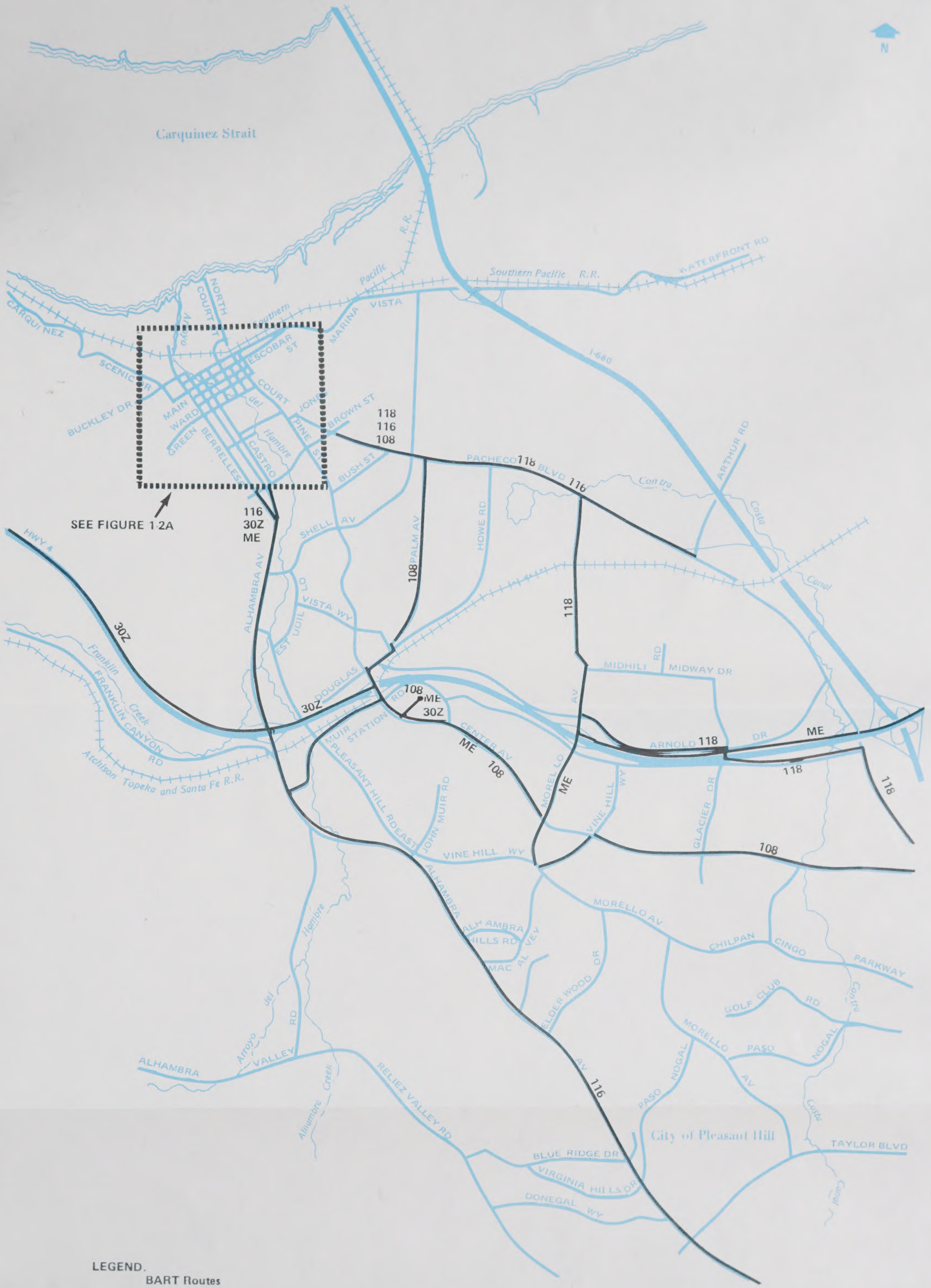
The origins and destinations of trips to and from Martinez are closely matched. A significant number remain within Martinez or are traveling to or from areas nearby. Thus, much of the traffic in Martinez is composed of local and nearby residents. As a result, some emphasis should be placed on maintenance of existing roadways and transit service and facilities to meet the demands of local trips.

REGIONAL TRAVEL

Martinez has historically been the focus of regional services since its designation as the County seat of government. County residents have traveled to the City to record deeds to their homes, pay property taxes and serve as jurors. The establishment of the Amtrak station and ferry service also brought residents to Martinez from throughout the County and region. County government has grown and train service expanded to include intercity rail. Traffic models utilize assumptions to form the basis for determining the origins and destinations of vehicle trips. It does not account for unusual situations such as juror traffic on Monday and Tuesdays, off-peak trips to various County offices trips generated by rail users or other regional services available in Martinez. These factors unique to the City must be considered when analyzing transportation needs in Martinez.

Destinations of PM Peak Vehicle Trips
With Origin in Martinez, 1990
Chart 1-3





LEGEND.

BART Routes
- ME
- 30Z

CCCTA Routes
- 108
- 116
- 118

Figure 1-2

EXISTING BUS ROUTES

Figure 1-2A

EXISTING BUS ROUTES

BUS SERVICE

Bus service in the City of Martinez is provided by Central Contra Costa Transit Authority and by BART to connect to the area BART stations. Routes 108, 116, 118, 30Z (BART), and ME (BART) serve the city. All routes serve the downtown area using either Pacheco Boulevard or the Alhambra/Berrellesa couplet. Geographically, the concentration of routes is in the northern portion of the city from Center Avenue north with only one route, the 108, serving the more southern area of Martinez. There is good service to the Pleasant Hill, Richmond, and Concord BART stations as all five routes go to at least one of the BART stations. Two of the routes (30Z and ME) are express routes, providing service directly between Martinez and BART. While also serving the BART stations, the other three routes serve more as city circulation routes. Table 1-3 briefly describes the five routes while a more detailed description of the bus routes follows:

Route 108 provides service between the Martinez AMTRAK station and the Concord BART station. The route operates on 30-minute headway Monday through Friday from 6:00 AM to 9:30 PM and on 50-minute headway on Saturday from 7:00 AM to 8:00 PM. This route also provides service to the Veterans Hospital and Diablo Valley College, as well as along Pacheco Boulevard, Center Avenue and Willow Pass Road. Average weekday ridership is 1,134 patrons per day.

Route 116 provides service between the Martinez AMTRAK station and the Pleasant Hill and Walnut Creek BART stations. The route operates on 25- to 45-minute headway Monday through Friday from 6:00 AM to 9:30 PM and on 50-minute headway Saturday from 10:00 AM to 7:00 PM. This route also provides service to the County Hospital and along Alhambra Avenue and Pleasant Hill Road. From 6:00 AM to 8:00 AM and 2:30 PM to 4:00 PM, service is also provided from the Martinez AMTRAK station along Pacheco Boulevard to Arthur Road. Average weekday ridership is 785 patrons per day.

Route 118 provides service between the Martinez AMTRAK station and the Concord BART station via Morello Drive. The route operates on 25- to 45-minute headway Monday through Friday from 6:00 AM to 9:00 PM and on 40-minute headway Saturday from 9:00 AM to 7:30 PM. Service is provided along Pacheco Boulevard, Morello Drive, Arnold Drive and Muir Road. Average weekday ridership is 467 patrons per day.

Route 30Z is a West County Transit (West Cat) express route between the Martinez AMTRAK station and the Richmond BART station. The route operates weekdays from 6:45 AM to 6:00 PM on two-hour headway. Service is also provided to the County Hospital, the Veterans Hospital, the West Cat Transfer Terminal on John Muir Parkway in Hercules, and Hilltop Mall. Route 30Z provides service along Alhambra Avenue, Berrellesa Street, and Muir Road in Martinez.

Route ME is a BART express route between the Martinez AMTRAK station and the Concord BART station. The route operates weekdays from 5:30 AM to 9:00 AM and 3:30 PM to 12:45 AM on 30- to 60-minute headway. Weekend service is hourly and is provided Saturday from 4:00 PM to 12:45 AM and Sunday from 9:00 AM to 12:30 AM. This route also provides service to the County Hospital, U.S. Veterans Hospital, and Kaiser Hospital. Stops are also made along Alhambra Avenue and Berrellesa Street. This route averages 215 riders per day on a weekday.

Table 1-3
Bus Lines Serving Martinez

Route #	From	To	Approximate Headway: Monday-Friday	Approximate Headway: Weekends
108	*Martinez AMTRAK*	*Concord BART*	*30 minutes*	*50 minutes*
116	*Martinez AMTRAK*	*Pleasant Hill and Concord BART*	*25 minutes peak* *45 minutes off peak*	*50 minutes*
118	*Martinez AMTRAK*	*Concord BART*	*25 minutes peak* *45 minutes off peak*	*40 minutes*
30Z (express)	*Martinez AMTRAK*	*Richmond BART*	*2 hours*	
ME (express)	*Martinez AMTRAK*	*Concord BART*	*30 minutes peak* *60 minutes off peak*	*60 minutes*

AMTRAK Service

AMTRAK provides regional rail service connecting Martinez with three routes, one to the San Joaquin Valley, one to San Francisco and Chicago, and the third route to Los Angeles and Seattle. The service that AMTRAK provides for Martinez is pleasure- or tourist-oriented. Table 4 displays the timetable for Martinez station stops. The daily average ridership in Martinez is 350 people per day on all three routes. AMTRAK does not have this information broken down by individual routes.

The *San Joaquin* route provides service between Oakland and Bakersfield. There are three northbound and three southbound trains daily with bus connections to and from Santa Rosa. The San Joaquin route provides the most frequent daily service of the three routes.

AMTRAK also provides connecting bus service between Martinez and Santa Rosa three times daily. That schedule is also displayed on Table 1-4.

The second route that serves the AMTRAK station is the *San Francisco Transcontinental* service. This route provides service once a day between San Francisco and Chicago with a stop in Martinez. One eastbound and one westbound train each leave in the early afternoon.

The *Pacific Coast* route is the third route that serves Martinez. It runs along the California coastline between Seattle and Los Angeles. There is one northbound and one southbound train per day stopping in Martinez. This route does provide early morning service into Richmond and Oakland that is appropriate for commute service. Unfortunately, the return route is too late in the evening, arriving at 9:38 PM, for most commuters.

Intercity Rail Service

Intercity rail service began in December, 1991 and will run from Placer County to Santa Clara County via Martinez utilizing the existing Southern Pacific Railroad tracks. This service is important to Martinez since it has been identified as a stop along the route and would use the existing AMTRAK station. Further discussion of this service follows in Chapter 2 along with a discussion of parking at the AMTRAK station.

Table 1-4
Martinez AMTRAK Service

San Joaquin Route	Oakland → Bakersfield		Bakersfield → Oakland	
	Leaves Martinez	8:10 AM	Arrives Martinez	10:20 AM
		11:45 AM		4:45 AM
		6:55 PM		9:05 PM
San Francisco Transcontinental	SF → Chicago		Chicago → SF	
	Leaves Martinez	12:33 PM	Arrives Martinez	2:37 PM
Pacific Coast Route	Seattle → Los Angeles		Los Angeles → Seattle	
	Leaves Martinez	7:18 AM	Arrives Martinez	9:38 PM

Connecting Bus Service Martinez-Santa Rosa	Martinez → Santa Rosa			
	Leaves Martinez	10:25 AM	Arrives Santa Rosa	12:10 PM
		4:50 PM		6:35 PM
		9:10 PM		10:55 PM
	Santa Rosa → Martinez			
	Leaves Santa Rosa	6:00 AM	Arrives Martinez	7:45 AM
		9:20 AM		11:10 AM
		4:30 PM		6:20 PM

Truck Routes

Martinez includes several industrial areas that are served by trucks. The truck route system has been designed to get trucks from Highway 4 and I-680 to these industrial areas. Truck routes have been designated on streets that have minimum residential frontage and have been designed to accommodate trucks. The truck routes in the City of Martinez are shown on Figure 1-3. These routes have been established by city ordinance. Trucks weighing over three tons are prohibited from other streets except for local deliveries, or by permit. The following streets are designated truck routes:

Marina Vista
Escobar Street
Shell Avenue
Berrellesa Street
Alhambra Avenue (north of SR 4)
Howe Road
Pacheco Boulevard (between Shell Avenue and SR 4).

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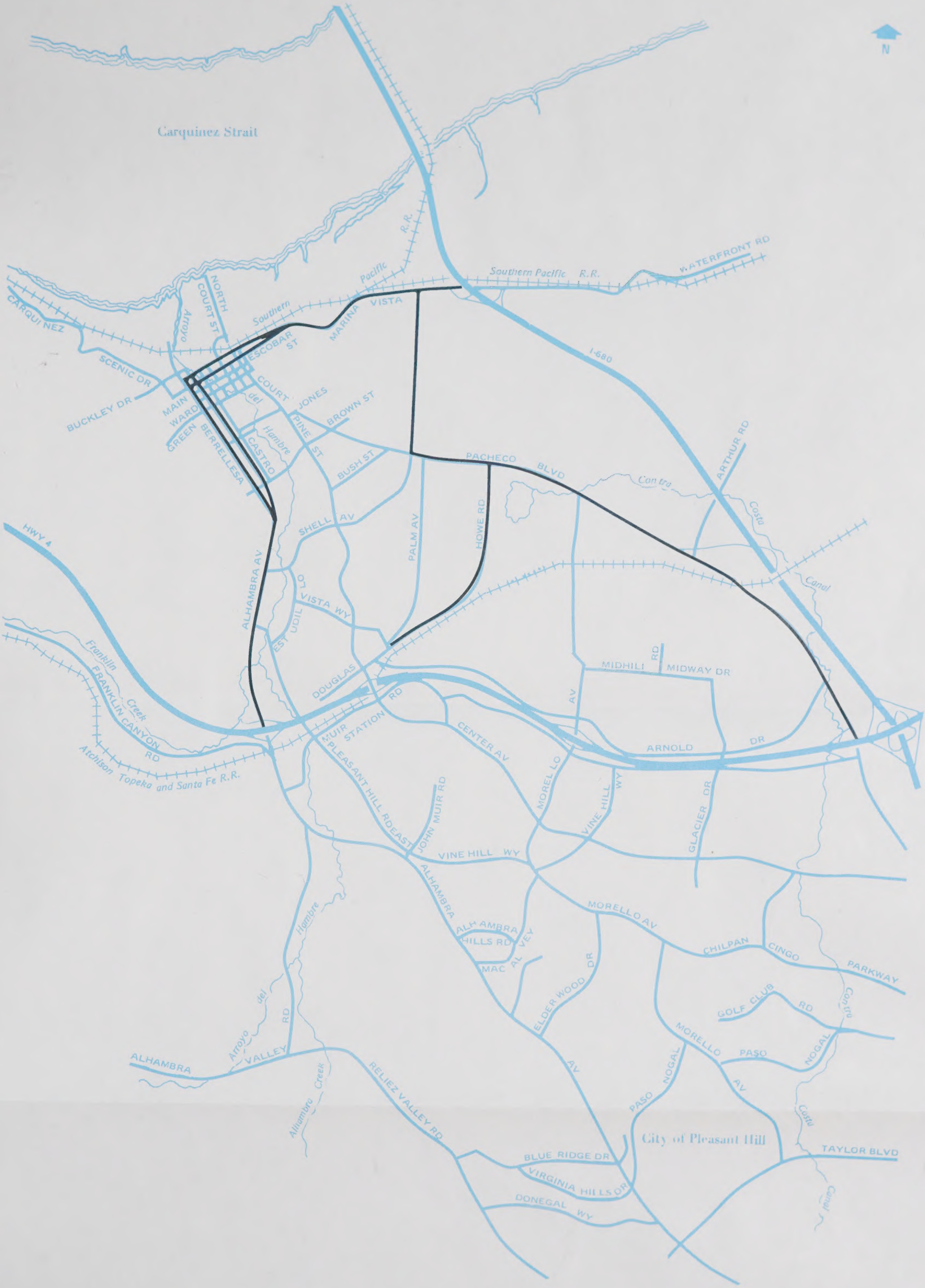


Figure 1-3

EXISTING TRUCK ROUTES

2.

Transportation Planning Context

This chapter discusses transportation planning issues that exist in the City of Martinez now and in the future. This chapter discusses the impact of the Contra Costa Transportation Authority Growth Management Program on the City of Martinez and the city's transportation systems management ordinance, examines the projected travel patterns for the year 2005, and describes possible future alternative transportation improvements.

Contra Costa Transportation Authority Growth Management Program

On November 8, 1988, the voters of Contra Costa County approved the Transportation Improvement and Growth Management Program along with a one-half percent sales tax increase. The program provides funding for transportation projects and establishes a process that involves each of the cities, towns, and the county in the management of the impacts of growth within Contra Costa. The emphasis of the program is to relieve congestion through road and transit improvements to be funded by the sales tax increase and to prevent future development decisions from resulting in a deterioration of transportation services in the county.

Each city and the county will be responsible for fulfilling certain requirements in return for a portion of the sales tax revenues. Those sales tax revenues may be used by the city to implement necessary transportation improvements. To be eligible for the funds several actions must take place. The following list includes only the actions pertinent to this circulation element. Other actions are required but do not directly relate to transportation.

- Each jurisdiction must adopt a growth management element of their general plan including transportation policies.
- Each jurisdiction must adopt and apply traffic service (LOS) standards to streets, roads and regional routes.
- Each jurisdiction must reduce its dependance on the single-occupant vehicle through adoption of a transportation systems management (TSM) ordinance.

- Each jurisdiction must require a traffic impact analysis of any proposed development that would produce 100 or more peak-hour trips. The Transportation Authority has provided a sample of the type and size of developments that meet the threshold. The following table, Table 2-1, is reproduced from the Transportation Authority:

Table 2-1
Examples of Development Meeting the 100 Peak-Hour Trip Threshold[1]

Development	Approximate Size	Comments
Single Family	100 units	
Condominium	180 units	
Apartments	150 units	
Hotel	140 Rooms	
Fast Food Restaurant	4,000 square feet[2]	(Would include some but not all fast food restaurants)
Shopping Center	14,000 square feet[2]	(Represents very small center)
General Office	20,000 square feet	(Represents small office building)

Notes: [1] Source ITE *Trip Generation*, 4th Edition
[2] Trip generation estimates used to establish approximately development size meeting threshold include adjustment for pass-by trips.

The City of Martinez is in compliance with these four requirements. The first requirement is satisfied through the adoption of the circulation element and the second through the adoption of the Transportation Authority's land use-based traffic service standards. The third requirement has been satisfied by the city's adoption of a transportation systems management ordinance. The fourth requirement has also been satisfied by the City of Martinez. The city has adopted a resolution which requires a traffic impact analysis in accordance with Contra Costa Transportation Authority (CCTA) guidelines and LOS standards.

Transportation Systems Management (TSM) Ordinance

The City of Martinez adopted a transportation systems management ordinance on September 19, 1990. The purpose of the ordinance is to encourage alternatives to the single-occupant vehicle during commute periods by offering alternative programs at employment sites within the city. The program intends to reduce automobile trips, daily parking demand, total vehicle miles traveled and to encourage carpools, vanpools, transit riders, pedestrians, and bicyclists.

The objective of this ordinance is to ensure that no more than 80 percent of employee commute trips occur in single-occupant vehicle. The ordinance specifies that this objective shall be reached within three years. The Transportation Authority is currently reviewing its model ordinance after which the Martinez ordinance is patterned. The Authority may charge the required trip reduction amount or the method by which it calculates trip reduction. Should the Authority proceed with changes to any part of the model ordinance, Martinez will have to review its ordinance for compliance and modify it accordingly.

The current ordinance specifies that employers with less than 25 employees or located within a complex with less than 25 employees are exempt. Employers with 25 to 99 employees must provide a transportation survey on July 1 of each year to the city stating the number of employees, the city and zip code of each employee's residence, the scheduled time at which each employee arrives and leaves, and the method of commuting for each employee.

The core of the ordinance applies to employers with 100 or more employees. Those employers are required to provide not only the transportation survey described above but also the following:

- A TSM information program;
- A TSM coordinator who has responsibility for implementation of the requirements of the ordinance;
- A TSM plan prepared by the TSM coordinator; and
- An annual implementation report describing the action taken to implement the TSM plan, the results of the TSM strategy, and any proposed changes to the plan.

This ordinance requires that employers comply within 12 months after the effective date of November 3, 1990.

The implementation of such TSM ordinances by all the jurisdictions within Contra Costa County will contribute towards reduction in congestion, air pollution, energy consumption, and noise levels. The intent of this ordinance is to provide a broad basis for achieving those goals.

CORRELATION OF LAND USE AND TRANSPORTATION ELEMENT

The Contra Costa Countywide Transportation Model was used to evaluate travel impacts in the year 2005. The modeling process is used to demonstrate and understand the correlation or balance between the Transportation Element and the Land Use Element. Travel demand is a *response* to the land use activity patterns. The modeling process uses land use and demographics as the input that reflects economic activities that generate traffic. For instance, different land uses such as commercial, office, open space, or industrial each generate varying amounts and types of traffic. The density to which those land uses are built also contributes to the magnitude of generated traffic; typically, the more dense the use, the more traffic. Demographic descriptors such as income, household size, and vehicles per household affect traffic generation at the residential or household end. These land use and demographic inputs are used in the traffic model to test alternative land use patterns and levels of development. Through this process these scenarios give alternative pictures of anticipated traffic impacts. In this way the Transportation Element is directly based on the Land Use Element and supports and advances the Land Use Element policies and projections through a coordination with transportation goals, policies, and improvements.

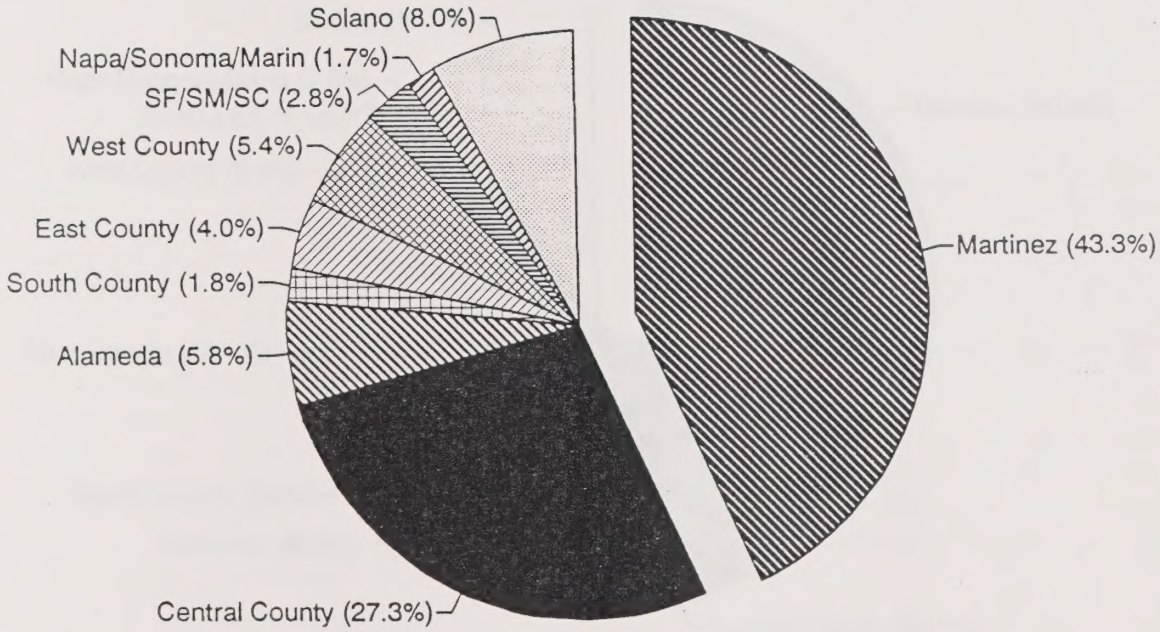
The pie charts in Charts 2-1 and 2-2 display the origins and destinations of the PM peak vehicle trips for the year 2005. As discussed under Existing Conditions, the origins of PM trips with destinations in Martinez remain predominately within the City itself and within the central county area. For the year 2005, approximately 43 percent of the trips are expected to remain in Martinez and an additional 27 percent to travel from the central county area. This total amounts to slightly over 70 percent. The same travel patterns are seen for the destinations of trips that originate in Martinez for the year 2005. Trips that begin and end in Martinez amount to 30 percent of the total, and trips that begin in Martinez and have a destination in the nearby central county area also amount to slightly over 30 percent. With this strong local trip-making pattern, opportunities exist for alternative transportation modes. Those alternative modes could include ridesharing, transit, bicycle, and ferry service. Some of these alternative modes currently exist within the city, such as ridesharing, transit, and bicycles. Future transportation modes could include intercity rail and ferry service.

Intercity Rail

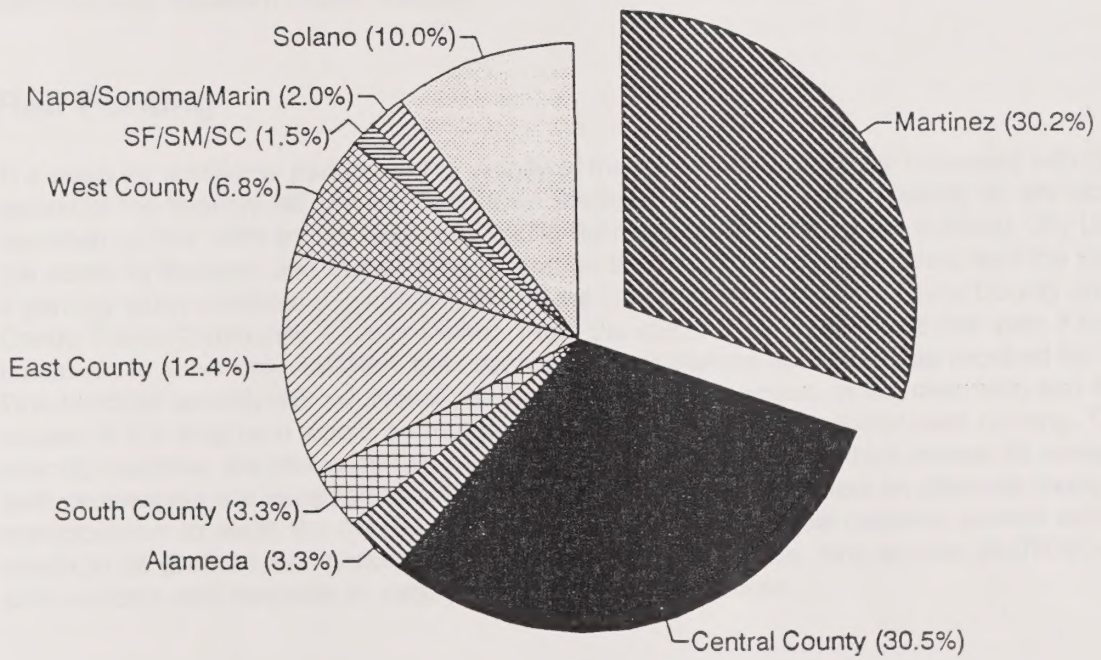
Intercity rail is of one the alternative forms of transportation that could be in service in the near future.

Assembly Concurrent Resolution 132 mandated the study of an intercity rail route along the Auburn-Sacramento-Oakland-San Jose corridor, the Capitol Corridor. The study was conducted by the Metropolitan Transportation Commission (MTC) with assistance from the Sacramento Area Council of Governments (SACOG) and Caltrans. This 167-mile long corridor is proposed to serve 18 stations, one being the Martinez AMTRAK station, and by three trains daily in each direction

Origins of PM Peak Vehicle Trips
With Destination in Martinez, 2005
Chart 2-1



Destinations of PM Peak Vehicle Trips
With Origin in Martinez, 2005
Chart 2-2



when first implemented. Full service, 12 trains daily, is forecasted to begin in 1993/94 serving 2,800 to 4,400 passengers with expected ridership increasing to 8,700 to 12,600 by the year 2010. Ridership figures are based on a low-fare policy, effective marketing, dedicated connections to other transportation services and networks, and adequate provision of parking. Partial service of 6 trains daily is expected to begin by the end of 1991.

Financing for the intercity rail project comes from Propositions 108 and 116, passed on the June 1990 ballot. Total capital cost for the three-stage program is $117 million ($ 1990), $85 million from Proposition 108, and $25 million from Proposition 116. The remaining $7 million is expected to come from the non-restricted portion of Proposition 116. Officials at the MTC expect that the operating cost of the system, ranging from $16 million in 1993/94 to $30 million in 1999/00, will be almost completely recovered by revenue. The expected deficit could range from $1 million to $6 million. Funding for station improvements is available from Proposition 116 monies with allocations by the California Transportation Commission (CTC) via the California Department of Transportation (Caltrans). Initiation of service is dependent on negotiations that are currently taking place between AMTRAK and Southern Pacific Railroad.

Rail Parking

The need for additional parking in the vicinity of the Amtrak station will be increased with the advent of the intercity rail service. Downtown Martinez, an area of approximately 53 city blocks bounded on the north by the Southern Pacific Railroad, on the east by the Martinez City Limits, on the south by Masonic and Susan Streets, and on the west by Berrellesa Street, was the subject of a parking study conducted jointly in 1987 by the City of Martinez, Contra Costa County and the Contra Costa Community College District. From the study it was determined that even if the station continues to serve only AMTRAK train service, 50 new parking spaces will be required by 1995. One hundred seventy-five additional parking spaces, at a minimum, in the near term and 600 spaces in the long term would be required if the Auburn-San Jose service were running. The intercity numbers are based on two passengers per parking space, which means 50 percent of all train passengers are expected to either carpool, be dropped off, or use an alternate mode of transportation to reach the AMTRAK station. With such an additional demand, serious consideration needs to be given to new parking facilities for intercity rail service, ferry service, AMTRAK service and carpools and vanpools to satisfy the city TSM requirements.

Transit and Bikes

There are no current plans to expand the existing bus service within the City of Martinez, nor are there any plans for expansion into the next several years. Route changes have recently been implemented by the Central Contra Costa Transit Agency (CCCTA) in the City of Martinez and no further changes are expected. The Short Range Transit Plan that the Central Contra Costa Transit Authority prepares and which will be published shortly, is a nine-year future plan. It does not show any changes in transit service for the City of Martinez.

Bikeways and bike facilities are discussed in Chapter 3. Implementation of the bikeway plan will contribute to promotion of bicycling as an alternative form of transportation.

Ferry Service

A study is currently underway by MTC to determine the feasibility of improving existing ferry service and initiating new ferry service for pedestrians, bicyclists and commuters to cities in the Bay Area, including Martinez. That study is expected to make recommendations concerning such service by spring 1992. Potential docking locations, including the channel along Ferry Street and the harbor, would provide convenient access to the AMTRAK station.

Intermodal Transportation Facility

The development of an intermodal transportation facility to integrate all modes of travel and to facilitate alternative uses would be beneficial to the City of Martinez and all of Contra Costa County. The logical location for this facility is the existing AMTRAK station. This location is currently utilized by the Central Contra Costa Transit Authority as a stop for its three bus routes that serve Martinez and by BART for its express routes to the Concord and Richmond BART stations. The bikeways plan includes several on-street bike lanes that lead to the downtown area and to the AMTRAK station. Other transportation modes that should be integrated into the site include the intercity rail service, the I-680 commuterway and ferry service to Martinez.

To serve the increased auto demand an intermodal station could generate, a parking facility should be incorporated nearby. Determination of location would be dependent on other improvements in the area. A facility could be used as a combination transit/rail station. Bicycle facilities such as lockers would be appropriate for anyone wishing to continue their commute or pleasure trip via one of the other modes of transportation available.

Contra Costa Regional Commuterway

The Contra Costa Transportation Improvement and Growth Management Program (Measure C) included a provision for development of the Contra Costa Regional Commuterway. Although not specifically defined, the commuterway was envisioned as a transportation corridor extending along Interstate 680 which could be developed as bus/van commute lanes connecting the residential areas of eastern and central Contra Costa with job centers in central and southern county. The project as described in the ordinance would use existing rights-of-way and specifies preserving connections to West Contra Costa. The City is the northern anchor of the commuterway; and as such, coupled with intercity rail service and potential ferry service, could provide a vital link in regional travel. The City should work with representatives from central and south Contra Costa County to develop a connection between the Amtrak/Intercity Rail Station and I-680 corridor.

The City should continue to be an active participant in regional decision-making to determine how best to meet regional transportation opportunities while minimizing any adverse impacts to local environs.

3.
Bikeways

The bicycle, although often regarded as a vehicle for recreational purposes, can be an important means of transportation. Inexpensive, energy-conserving, and non-polluting, the bicycle can serve as an alternative to the automobile and can contribute to alleviating traffic congestion.

The following components are necessary to develop a complete bicycle system:

1. *Bikeways* - bike lanes and paths that make up part of the transportation network.
2. *Parking Facilities* - lockers or racks that provide sheltered and secure bicycle parking.
3. *Showers and Lockers* - facilities that allow the bicycle commuter to change clothes for work.

This plan focuses on bikeways, their delineation and implementation. Parking facilities and showers should be provided on a case by case basis as a requirement of new development.

Bikeway Classification

Caltrans has published planning and design criteria for bicycle facilities in accordance with the California Streets and Highway Code. The classifications of bikeways are described below.

Bike Paths (Class I). These provide completely separate rights-of-way for bicycle travel. The minimum pavement width should be 8 feet for a two-way bike path or 5 feet for a one-way path. When adjacent to a highway with no physical barrier, a buffer area of at least 5 feet should be provided between the edge of the highway and the bike path.

Bike Lanes (Class II). These provide right-of-way for the preferential use of bicycles within a striped lane on-street. Bicycle lanes require standard signing and pavement markings including a six-inch solid white stripe separating the lane from automobile traffic. Where auto parking is

prohibited, bike lanes should have a minimum width of four feet. Where parking is permitted, a minimum width of five feet is required.

Bike Routes (Class III). These are designated by bike route signs along streets that are shared with motor vehicles and pedestrians. Bike routes are intended to connect bicycle paths and lanes to provide continuity in the bicycle circulation system and should only be used on low volume roads.

Existing Bikeways

Figure 3-1 shows the existing bicycle facilities within the City of Martinez. Bike lanes currently exist on the following roadways:

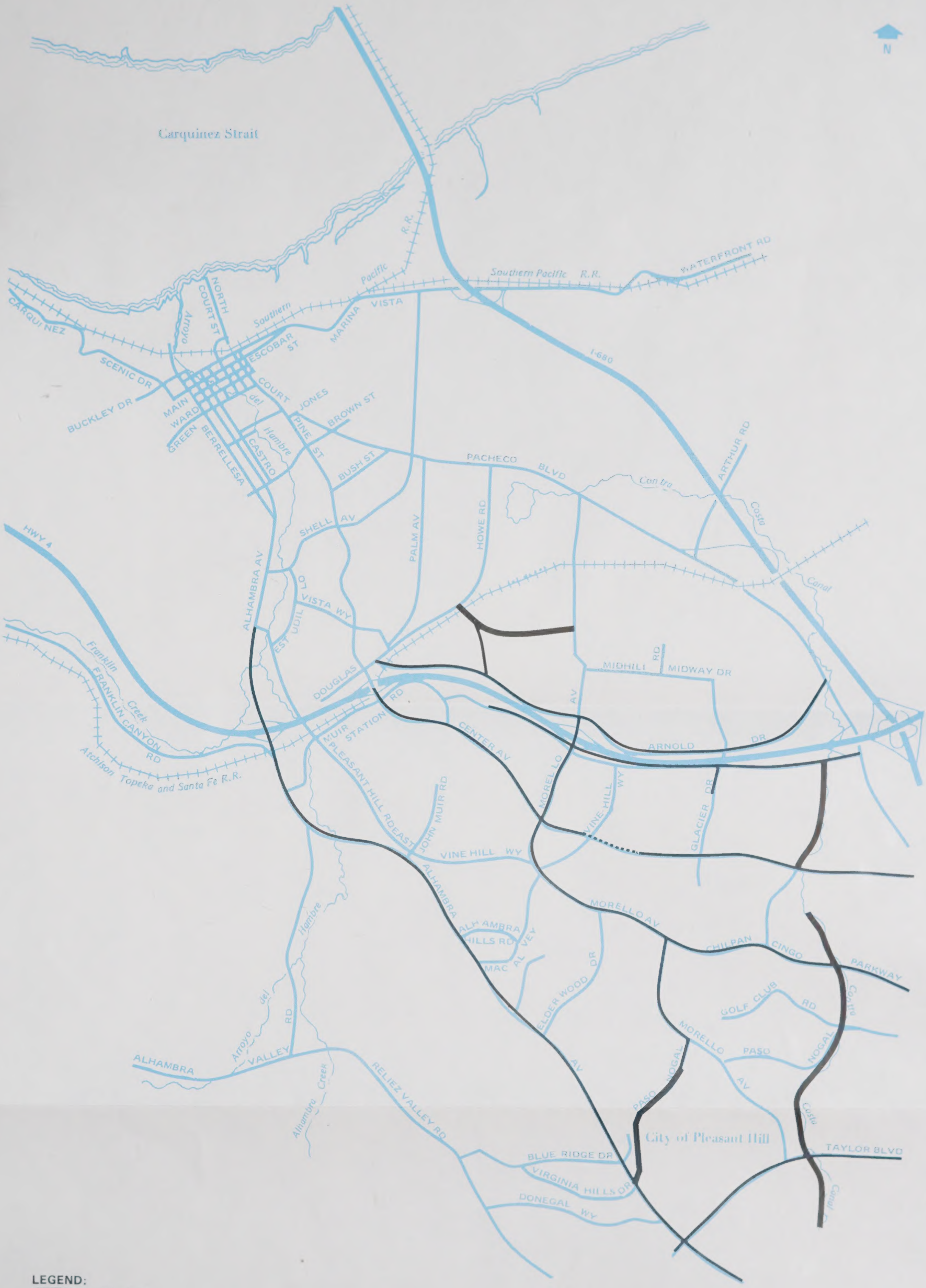
Alhambra Avenue: south of K Street, and continuing on to Pleasant Hill Road
Center Avenue: between Muir Road and Hidden Lakes Drive
Morello Avenue: between Highway 4 and Paso Nogal
Arnold Drive: west of Howe Road to Pacheco Boulevard
Muir Road: Kaiser Hospital to Pacheco Boulevard
Glacier Drive: in front of the county offices, south of Muir Road
Chilpancingo Parkway: west of Morello Avenue to the EBRPD Canal Trail.

A bike path exists along the Contra Costa Canal, south of Chilpancingo Parkway, and portions of a bike path exist or are being constructed north of Chilpancingo Parkway along the canal, to Muir Road. The existing southern portion of the trail continues south along the canal through Pleasant Hill. The planned trail north of Muir Road will follow the canal to Martinez Reservoir. Links to the Canal Trail are provided via Chilpancingo Parkway and Taylor Boulevard.

Bikeway Plan

Although progress has been made in the development of a bikeway system in the City of Martinez, the system is incomplete. New paths, lanes, and routes are needed to link existing bicycle facilities and to provide improved access to activity centers including schools, recreation areas, shopping, and employment. Connections between different sections of the city and to the regional trail network are needed. In particular, the corridor between the downtown and the residential areas to the south and southeast is unserved. Bikeways must also provide links to the city's trail plan, which includes the Canal Trail along Contra Costa Canal and the segment of the Bay Trail that lies along the Martinez Regional Shoreline.

The bikeway plan, shown on Figure 3-2, incorporates the existing bikeways in Martinez, the Contra Costa County Bikeway Plan, and the City of Martinez Trails Plan. The bikeway system will link the residential areas of the south and southeast to downtown and provide links between the existing bikeway system, the adjacent communities of Concord and Pleasant Hill, and local recreation trails, specifically the Contra Costa Canal Trail and the Bay Trail. The proposed bikeways are described in detail in the following sections.



LEGEND:
- = Bike Path
- = Bike Lanes
- = Bike Route

Figure 3-1

EXISTING BIKEWAYS

Barton-Aschman Associates, Inc.

LEGEND.

- Bike Path
- Bike Lanes
- Bike Route
- Special Bike Route (NO Vehicles on Weekends)

Figure 3-

BIKEWAY PLAN

Figure 3-2A

BIKEWAY PLAN

First Priority Projects

Bikeways that are considered first priority projects are important in creating connections within the bicycle system or provide facilities in parts of the city where bikeways would be particularly desirable. Many of these projects already have funding in place or in process.

Alhambra Avenue, north of K Street: Bike lanes are needed to connect the bikeway on Alhambra Avenue south of K Street with the downtown. The limited width between K Street and B Street makes implementation of bike lanes in this segment a challenge. However, no other good location exists to link the downtown with the rest of the bikeway system. The city has studied alternative cross-sections and found that bike lanes are feasible if parking is restricted.

Marina Vista: Bike lanes have recently been provided along Marina Vista to I-680. In response to concerns expressed by the residents of Miller Avenue, a plan to restripe Marina Vista east of Escobar Street to Shell Avenue has been developed. The restriping provided one travel lane in each direction, a center turn lane, and bike lanes in each direction. The traffic analysis conducted for this circulation element indicates that with this reduction in capacity Marina Vista will still accommodate the expected traffic volume. The bike lanes have the potential of connecting with the Bay Trail. Bike lanes on the Escobar Street/Marina Vista couplet will be constructed later.

Carquinez Scenic Drive: The EBRPD is working to get Carquinez Scenic Drive closed to traffic weekends so that it can be used exclusively by bicyclists, joggers, and hikers. The road provides access to an oil storage facility that is closed on weekends, so no vehicular traffic would be displaced.

Reliez Valley Road/Alhambra Valley Road: The City of Martinez, Contra Costa County, and the Cities of Lafayette and Pleasant Hill have a joint project to construct a bike path adjacent to Reliez Valley Road from Pleasant Hill Road in Lafayette to Alhambra Valley Road, and then along Alhambra Valley Road to Alhambra Avenue. TDA funds have been approved for the Lafayette and County trail segments. All three jurisdictions will continue to apply for funds until the path is completed along the entire roadway.

Contra Costa Canal Trail: This bike path follows the Contra Costa Canal, serving as a recreational trail. Presently, this facility serves many areas of Concord, Walnut Creek, and Pleasant Hill, with its northernmost terminus located at Chilpancingo Parkway. Construction plans are completed for the segment between Chilpancingo Parkway and Muir Road. At Muir Road the facility will become a bike lane and jog over to Pacheco Boulevard to cross Highway 4. The Class I bike path will pick up again where the canal crosses Pacheco Boulevard and follow the canal to Martinez Reservoir. This route is mostly outside the Martinez city limits. Nevertheless, the Martinez City Council has directed the Park and Recreation Commission to work with the East Bay Regional Park District and the Contra Costa Water District to investigate feasibility and funding of the bike path and a park at the Martinez Reservoir.

John Muir Trail: A-M Homes is required to build a bike path from Morello Avenue through their project and underneath the railroad tracks to Howe Road. A portion of the trail will actually be a bike lane on the extension of Old Orchard Road. Also, the Citation subdivisions recently approved along Morello Avenue include an extension of bike trail east to the Morello School and Park.

Alhambra Hills: The Alhambra Hills development approvals include bike lanes and bike paths connecting Alhambra Avenue to Reliez Valley Road. The facility will begin at Wildcroft Drive and Alhambra Avenue and run west to Horizon Drive and Reliez Valley Road.

Second Priority Projects

Second priority projects will improve circulation in the bikeway system. However, further planning and investigation of funding for these projects are necessary before implementation.

Marina Vista/Escobar: Bike lanes should be added to this couplet to join the future Marina Vista bike lanes to the future Alhambra/Berrellesa bike lanes and to Carquinez Scenic Drive.

Pacheco Boulevard: Bike lanes on Pacheco Boulevard will connect the downtown and Pacheco area. (This route also has the potential of providing bicycle access to the Pleasant Hill BART station, contingent upon bikeway plans in the City of Pleasant Hill.) Between Shell and Morello, Pacheco Boulevard already has striped shoulders that are wide enough for bike lanes. East of Morello, substantial widening will occur as the area develops and Pacheco is built-out as a four-lane major arterial. Bike lanes could be added in conjunction with the widening. West of Shell, widening of Pacheco would be more difficult, although bike lanes could fit within the existing right-of-way if the curbs were moved back or if parking were restricted.

Pine Street/Court Street: The placement of bike lanes along Pine Street/Court Street would provide an extension of the future Pacheco bike lanes into the downtown. As with Pacheco, however, narrow pavement width makes these lanes difficult to implement.

Bay Trail (Martinez Shoreline Segment): This trail will include a Class I bike path. The Bay Trail will, conceptually, encircle San Francisco Bay, San Pablo Bay, and the Carquinez Strait. Within the City of Martinez, the trail accesses the Regional Shoreline, Marina, and Waterfront Park. The alignment of the Bay Trail has not been determined nor has the right-of-way been acquired along the water frontage of Shell Oil and Tosco. To encircle the bay, the Bay Trail must cross the Carquinez Strait. This could be accomplished via ferry service from the Martinez Marina or via bike lanes on the Benicia Bridge.

Howe Road: Bike lanes should connect to the existing bikeway on Arnold Drive and proposed bike lanes on Pacheco Boulevard. Care will have to be taken to avoid conflict between bicycles and traffic generated by the adjacent commercial uses.

Morello Avenue, north of Highway 4: Bike lanes could provide a link between Arnold Drive, Pacheco Boulevard, and the residential areas adjacent to Morello Avenue. The bikeway should connect with the existing bike lanes on Morello Avenue, south of Highway 4. Recently approved subdivisions along Morello Avenue required widening Morello Avenue from Midhill Road to the railroad undercrossing to allow for left-turn lanes and bike lanes. Ultimately, the bike lanes should be extended north to Pacheco and south to Highway 4.

Midhill Road/Milano Way: Bike lanes should link the adjacent residential areas with the bikeways on Morello Avenue, Muir Road, and Glacier Drive.

Glacier Drive/Hidden Valley: Bike lanes exist from Muir Road to the county offices on Glacier Drive. These lanes should be extended south to Center Avenue and the Hidden Valley School. The lanes should then link to a bike path through Hidden Lakes Open Space that leads to Lake Oaks Court. From there, bike lanes should connect to the existing bike lanes on Chilpancingo Parkway.

Muir Station Road/Muir Road, west of Kaiser Hospital: Bike lanes should be continued on Muir - Road from the point where the bike lanes end, at Roman Way, to Center Avenue. Bike lanes should then continue along Muir Station Road to Pleasant Hill Road East. Restriping is required as far west as Nob Hill Center, but Muir Station Road will need to be widened. This project is included on the city's Traffic Mitigation Fee Project list. Beyond Pleasant Hill Road East, connection to Alhambra Avenue could be made via a bike route on Brackman Lane and across an existing City-owned easement.

Alhambra Way/Pleasant Hill Road East: Bike lanes along Alhambra Way and Pleasant Hill Road East will provide an alternate route to Alhambra Avenue for some bicyclists traveling between downtown and the residential areas of Martinez or Pleasant Hill. Roadway widening, shoulder paving and restriping would be required.

Vine Hill Way: A bike path could be developed adjacent to Vine Hill Way from Alhambra Avenue, across Morello and Center, to Rolling Hill Way. Additional right-of-way would be required. The path could link up with Muir Road via a bike lane from Rolling Hill Way.

Franklin Canyon Road: Bike lanes should be provided on Franklin Canyon Road, which travels west from Alhambra Avenue, paralleling Highway 4. These bike lanes will serve as links between the City of Martinez and the communities of Port Costa, Crockett, and Rodeo. Bike lanes would require paving the shoulders on Franklin Canyon Road.

Shell Avenue: Bike lanes should be provided along the entire length of Shell Avenue. This would require widening the streets.

Connections to Regional System

Many of the bikeways that exist or are planned in Martinez will provide connections to a larger, regional bikeway system. These are listed below:

Bay Trail: The bike path planned for the Martinez waterfront will be a part of the planned Bay Trail that will encircle the San Francisco Bay. The connection across the Carquinez Strait will also occur in Martinez either via ferry or the Benicia Bridge.

Franklin Canyon Road: Bike lanes along Franklin Canyon will tie into a system that parallels Highway 4 and links to Port Costa and Crockett.

Reliez Valley Road, Alhambra Avenue, Pacheco Boulevard, and the Contra Costa Canal Trial: These four facilities will all link to Pleasant Hill, and from there connections are available to Lafayette, Concord, and Walnut Creek.

Arnold Drive: The County Bikeway Plan calls for a bike lane north of Highway 4 that will link up to Pittsburg and Antioch. In Martinez, this bikeway will connect to the existing bike lanes on Arnold Drive.

Bikeway Design

Bikeways should be designed in accordance with Caltrans guidelines. Bike *lanes* should be striped at least four feet (preferably five feet) from the curb on streets without curb parking and twelve feet from the curb on streets that allow parking. Bike lanes should accommodate one-way bicycle travel only.

Bike *paths* should be at least five feet wide if one-way and eight feet wide if two-way. The paths should be separated from adjacent roadways by at least five feet.

In addition, the following design issues are relevant to the bicycle transportation system:

1. *Shoulders*: Regardless of how extensive the bikeway system, some bicycle travel will occur on streets without bicycle facilities. In order to ensure room for safe bicycling on all streets, curb lanes should be at least 14 feet wide where there is no parking, or 20 feet wide if parking is allowed.

2. *Intersections*: Intersections should be designed with bicyclists in mind. If bike lanes are striped on streets approaching an intersection, they should be continued through the intersection. If exclusive right-turn lanes are provided, the bike lane should be placed between the right-turn lane and the through lanes.

3. *Storm Drains*: Some drainage grate designs have bars parallel to the curb that can catch bicycle tires. All grates should be bicycle-safe whether on bikeways or not.

Maintenance

Maintenance is a common problem on bike lanes and paths. Bike lanes are near the curb so they collect glass and other road debris. Bike paths are often in wooded areas where they can become uplifted by tree roots and littered with leaves and weeds. The city must properly maintain the bicycle facilities that are installed, or they will become unsafe. Maintenance should consist of regular sweeping and prompt repair of broken pavement. Bike lanes actually facilitate street sweeping in places where they eliminate on-street parking.

Implementation

Bike Lanes

The easiest way to implement bike lanes is to add them to a street in conjunction with a reconstruction, repaving, or restriping project. This strategy presumes that adequate curb-to-curb width is available. In some cases, one or two travel lanes would need to be removed. Removal could only take place on streets where volumes will remain low relative to the existing capacity. Other streets could be restriped for bike lanes if some parking were removed.

In some cases, bike lanes may be easier to add to streets by narrowing the traffic lanes. The standard lane width in Martinez (and most cities) is 12 feet. Studies reported by the Institute of Transportation Engineers (ITE) have shown that lanes narrower than 12 feet perform just as well. The ITE now accepts lanes as narrow as 10 feet, especially in the case of left-turn lanes.

The following streets could be restriped for bike lanes without removing travel lanes or parking:

- Pacheco Boulevard—from Shell to Morello
- Howe Road
- Milano Way

The following streets could be restriped for bike lanes by removing one or two travel lanes. The existing and projected traffic volume could be accommodated with the reduced number of lanes.

- Marina Vista
- Escobar Street

The following streets could accommodate bike lanes if parking were removed from one or both sides.

- Alhambra Avenue—couplet section (remove parking one side)
- Berrellesa Street—couplet section (remove parking one side)
- Alhambra Avenue—B Street to K Street (remove parking both sides)
- Glacier Drive (remove parking one side)
- Court Street/Pine Street—downtown (remove parking one side)
- Muir Road—from Center to Hull Lane (remove parking in front of Veteran's Hospital)

Some of the streets on which bike lanes are planned will need widening in order to accommodate them. In most cases additional right-of-way will also be needed. Some of the right-of-way can be obtained through dedication when the adjacent property develops. However, some right-of-way purchases will be necessary. The following is the list of streets that need widening:

- Pacheco Boulevard—Jones Street to Shell Avenue (no right-of-way required)
- Pacheco Boulevard—Morello Avenue to Blum Road
- Midhill/Midway—some sections
- Alhambra Way
- Pleasant Hill Road East
- Muir Station Road—some sections
- Franklin Canyon Road
- Shell Avenue

Bike Paths

The following describes what will be required to implement each of the bike paths.

- *Bay Trail*: The location of this bike path has not been set. Assuming that it will follow the waterfront, right-of-way must be acquired.

- *Contra Costa Canal Trail*: Most of this bike path is already built or under construction. The remaining sections up to Martinez Reservoir are entirely outside the Martinez city limits, so implementation will be the responsibility of the county. The bike path will be fairly easy to build because a paved maintenance road already exists along the canal.

- *John Muir Trail*: This bike path between Morello School and Howe Road will be built by developers in conjunction with their projects in the area.

- *Alhambra Valley/Reliez Valley Roads*: A bike path along these roads will require additional right-of-way. The city will pursue Transportation Development Act (TDA) funds for right-of-way acquisition and construction.

- *Vine Hill Way*: A bike path along this alignment will require right-of-way acquisition. However, most of the alignment is clear of structures.

- *Alhambra Hills*: The planned bike path connection between Alhambra Avenue and Horizon Drive will be built by developers in conjunction with the new housing projects in the area.

Funding Sources

Not all of the bikeway system can be built by developers or in conjunction with road reconstruction projects. Some specific bikeway funding will be necessary to complete the system. The following is a list of potential funding sources that exist as of 1991:

Transportation Development Act (TDA): Approximately $350,000 to $400,000 in TDA funds are available annually in Contra Costa County for bikeways. Funding is administered by the County Public Works Department. Projects seeking TDA funds are nominated by cities or Contra Costa County and are evaluated and ranked by a special committee consisting of representatives of the cities, the East Bay Regional Park District and bicycle organizations. The resulting project list is submitted for approval to the City-County Engineering Advisory Committee, the Mayor's Conference, and, finally, the Board of Supervisors.

Caltrans Bike Lane Account: The Bike Lane Account Program allocates $360,000 or more to cities and counties throughout the state. In order to qualify for these funds, projects must demonstrate potential use by bicycle commuters.

Measure C: Under Measure C, Contra Costa County sales tax supports specified transportation improvements. The measure provides $3 million over 20 years for regional bicycle and pedestrian trails. The CCTA has already allocated some of the $3 million to the Iron Horse bike trail in southern Contra Costa County. The Authority is in the process of developing a trails plan, which will identify how the remainder of the money will be spent.

Proposition 116: The California Clean Air and Transportation Initiative (Proposition 116), which the voters of California approved in June 1990, provides $20 million statewide for bicycle projects. The California Transportation Commission is developing guidelines for the procurement and use of these funds.

Development Fees: Approximately $50,000 may be allocated annually for development of bikeways.

4.
Proposed Street Plan

This chapter describes the different types of streets that comprise the proposed street plan, their locations and cross-sections, and the projected future-year (2005) operating conditions.

Street Classification

Standard street planning establishes a hierarchy of street types starting with major arterials and progressing down to local streets. Arterials are wide streets whose primary function is to carry through volumes; local streets are much narrower and provide property access. Collectors are intermediate in size and function. The proposed specific street classification system in Martinez is as follows:

Major Arterial: Primary function is to move large volumes of traffic between freeways and other arterials within Martinez and to adjacent jurisdictions. Major arterials should provide four travel lanes, a raised or painted median, and bike lanes. On-street parking should not be provided. Driveway access should be minimized, consistent with the primary function of major arterials to move through traffic. The proposed major arterials are as follows:

Alhambra Avenue
Berrellesa Street
Pacheco Boulevard east of Shell Avenue.

Minor Arterial: Primary function is also to move through traffic between freeways and other arterials but carries lower volumes than a major arterial. Minor arterials should provide two travel lanes, a raised or painted median, and bike lanes. On-street parking may be provided if sufficient width is available. Driveway access should be restricted as on major arterials. The proposed minor arterials are as follows:

Marina Vista
Escobar Street
Howe Road
Arnold Drive
Center Avenue
Morello Avenue (south of Highway 4)
Chilpancingo Parkway.

Collector: Provides a link between local streets and arterials. Collectors should provide two travel lanes and bike lanes where called for in the bikeway plan. On-street parking may be provided if sufficient width is available. Collectors also provide access to adjacent properties, so driveway access should be discouraged but need not be restricted (subject to accepted engineering practice). The proposed collectors are as follows:

North Court Street
Main Street (Berrellesa Street to Court Street)
Ward Street (Berrellesa Street to Court Street)
Green Street (Berrellesa Street to Court Street)
Ferry Street (Joe DiMaggio to Green Street)
Court Street
Susana Street (Castro Street to Court Street)
Jones Street (Berrellesa Street to Castro Street)
Brown Street (Berrellesa Street to Pacheco Boulevard)
Pine Street (Bush Street to Pacheco Boulevard)
Pine Street (Bush Street south)
Canyon Way
Shell Avenue
D Street (Alhambra Way to Shell Avenue)
Estudillo Street (D Street to Alhambra Way)
Vista Way
Palm Avenue
Alhambra Way
Muir Station Road south to Alhambra Avenue
Muir Station Road north
Old Orchard Road
Midhill Road/Midway Drive
Milano Way
Muir Road
Pleasant Hill Road East
Vine Hill Way
Glacier Drive
Hidden Lakes Drive
Macalvey Drive
Elderwood Drive
Blue Ridge Drive
Virginia Hills Drive
Donegal Way

* Underline indicates existing road does not meet collector standards and may merit traffic control devices.

Local Street: Primary function is to provide direct access to adjacent properties. Volumes should be kept low and through traffic discouraged. Local streets should provide two travel lanes and on-street parking. Parking may be prohibited if it is not necessary. Bike lanes are not needed because local streets carry low traffic volumes.

Rural Streets: Martinez has some streets that are rural in character. These should provide two travel lanes, no parking and bike lanes where indicated in the bikeway plan. The main distinguishing features between rural streets and local streets is that the rural streets tend to be narrow, winding, hilly, and without curbs and gutters. The proposed rural streets are as follows:

Carquinez Scenic Drive
Waterfront Road
Franklin Canyon Road
Alhambra Valley Road
Reliez Valley Road
Pleasant Hill Road East
Vine Hill Road (between Alhambra and Center)
Streets within the Muir Oaks subdivision.

Street Locations and Cross-Sections

The Street Plan indicates where the different types of streets should be located (see Figure 4-1).

Table 4-1 shows the standard cross-sections for the various types of streets. Standard curb-to-curb widths are as follows:

Major Arterials	80 feet
Minor Arterials	44-64 feet
Collectors	28-50 feet
Local Streets	28-40 feet
Rural Streets	32-38 feet

Right-of-way widths should be *at least* 10 feet, and ideally 20 feet, wider than the curb-to-curb width.

Using these standards as a guide, six streets are presently below standard: Alhambra Avenue (south of Highway 4), Morello Avenue (north of Highway 4), and Pacheco Boulevard (east of Morello Avenue and west of Shell Avenue), Shell Avenue, Alhambra Way, and Pleasant Hill Road East. Two of these streets, Morello and Pacheco, are presently beyond the Martinez city limits. In addition, five streets need widening to fully implement the bike lane program: Midhill Road, Muir Station Road, Alhambra Way, Pleasant Hill Road East, Shell Avenue, and Franklin Canyon Road. These are described in more detail in the Bikeways chapter.

LEGEND:

- = Major Arterial
- = Minor Arterial
- = Collector
- = Rural

Figure 4-1

STREET PLAN

Figure 4-1A

STREET PLAN

Table 4-1
Standard Street Cross-Sections

Classification	Lanes	Median	Bike Lanes	Parking	Pavement Width	
					Minimum	Standard
Major Arterial	*4*	*yes*	*yes*	*no*	*64'*	*80'*
Major Arterial—One-Way	*2*	*--*	*one-side*	*one-side*	*34'*	*38'*
Minor Arterial	*2*	*yes*	*yes*	*yes*	*60'*	*64'*
				one-side	*50'*	*54'*
				no	*40'*	*44'*
Minor Arterial—One-Way	*1*	*--*	*one-side*	*yes*	*32'*	*34'*
Collector	*2*	*no*	*yes*	*yes*	*46'*	*50'*
				one-side	*36'*	*40'*
				no	*32'*	*36'*
Collector and Local	*2*	*no*	*no*	*yes*	*32'*	*36'*
				one-side	*26'*	*30'*
				no	*22'*	*24'*
Rural	*2*	*no*	*yes*	*no*	*34'*	*38'*
			no	*no*	*28'*	*32'*

Intersections

Intersections may need additional street width, beyond the standard cross-sections, to accommodate turn lanes. Specifically, right-turn lanes and double left-turn lanes should be provided where required. Intersection requirements should be determined on a case-by-case basis in conjunction with new development review.

Year 2005 Levels of Service

The adequacy of the existing street network was tested by projecting year 2005 traffic volumes based on buildout of the existing General Plan. The modeling process is used to demonstrate and understand the correlation between the Transportation Element and the Land Use Element. The modeling process uses land use and demographics as the input that reflects economic activities that generate traffic. The intensity to which those land uses are built also contributes to the magnitude of generated traffic; typically the more dense the use, the more traffic. Demographic descriptors such as income, household size, and vehicles per household affect traffic generation at the residential or household end. These land use and demographic inputs are used in the traffic model to test alternative land use patterns and levels of development.

The projections were compared to the planned street system capacity, using the following street capacities:

Street Type	Daily Traffic Capacity (vehicles per day)
six-lane freeway	112,500
four-lane freeway	75,000
major arterial	35,000
minor arterial	18,000
collector	12,000

Figure 4-2 shows that all of the streets in Martinez will operate at 80 percent of capacity or less, which is indicative of a Level of Service C condition. This level is well within the Measure C guidelines that require a volume-to-capacity ratio of 0.89 (high D) in the downtown and 0.84 (mid D) for the remaining suburban parts of the city. (See Appendix B)

Intersection turning movements were also projected for the key intersections. These were translated into levels of service using the existing lane configurations and the *Circular 212* methodology (see Table 4-2). Only two locations are projected not to meet the Measure C standard of LOS D (V/C = 0.84). Those locations are the intersections of Center Avenue at Muir Road and at the eastbound Highway 4 ramps. The Center/Highway 4 ramp intersection should be improved through the addition of either a second left-turn lane onto the Highway 4 ramp from the north or a free-running right-turn lane onto the ramp from the south. Either improvement would result in LOS C operation. The Center/Muir intersection could be improved by the addition of a free-running right-turn lane on the east leg of Muir Road. This improvement would yield LOS B operation.

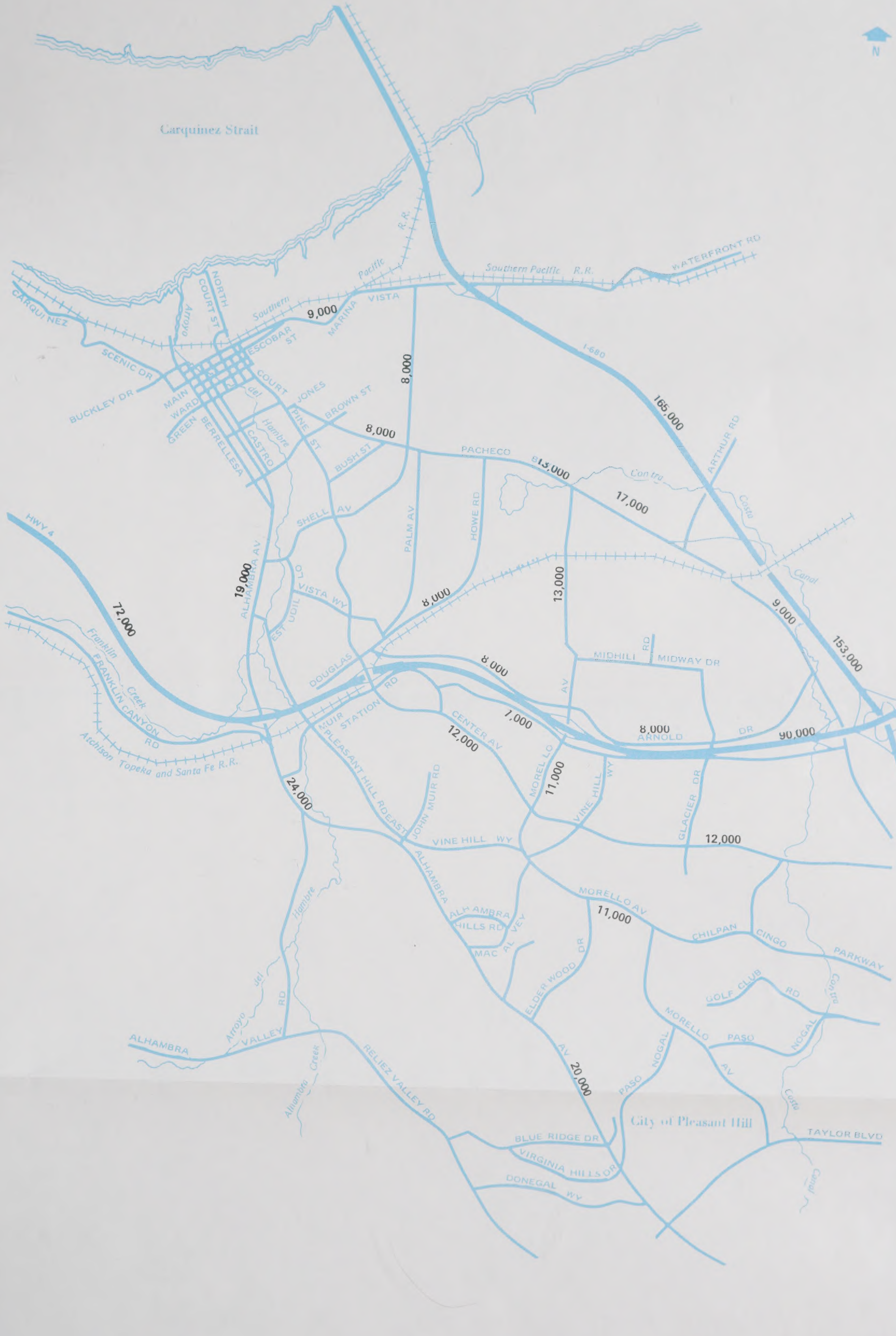


Figure 4-2

YEAR 2005 PROJECTED DAILY TRAFFIC VOLUMES

Table 4-2
PM Peak-Hour Intersection Levels of Service

Intersection	Date of Count	1990 V/C /1/	1990 LOS /2/	2005 V/C	2005 LOS
Morello Drive/Arnold Drive	11/6/90	0.63	B	0.72	C
Morello Drive/SR 4 ramps (north)	11/6/90	0.71	C	0.78	C
Morello Drive/SR 4 ramp (south)	11/6/90	0.67	B	0.77	C
Morello Drive/Muir Road	11/6/90	0.64	B	0.80	D
Pine Street/SR 4 ramp (north)	11/8/90	0.59	A	0.84	D
Center Avenue/SR 4 ramps (south)	11/8/90	0.59	A	0.88	D
Center Avenue/Muir Road	11/8/90	0.68	B	0.85	D
Pine Street/Howe Road	11/7/90	0.43	A	0.52	A
Arnold Drive/Howe Road	11/8/90	0.39	A	0.39	A
Alhambra Avenue/SR 4 ramps (north)	11/7/90	0.74	C	0.74	C
Alhambra Avenue/SR 4 ramps (south)	11/7/90	0.78	C	0.78	C
Marina Vista/I-680 ramps (east) /3/	11/7/90	0.78	C	0.82	D
Marina Vista/I-680 ramps (west)	11/7/90	0.31	A	0.45	A
Arthur Road/I-680 Pacheco Exit /3/	11/8/90	0.60	B	0.64	B

/1/ Volume-to-capacity ratio.
/2/ Level of Service.
/3/ Presently not in the City of Martinez.

5.
Neighborhood Traffic

The role of local streets is to provide direct access to adjoining land uses. To fulfill this role, streets have generally been planned and constructed with wide pavements, large curb radii and the availability of curb parking. These design standards intended for ease of movement of automobiles, emergency vehicles, and trucks can sometimes result in negative side effects within residential neighborhoods. Neighborhood streets sometimes are used as speedways or as short-cut alternatives to congested arterial streets. Many view the neighborhood street, however, as a community asset where neighbors can meet and residents can relax as they walk or ride their bicycles. The result of this dual purpose is an increase in conflicts between neighborhood residents, drivers (including residents and cut-through vehicles), neighboring land uses, and those people who plan, maintain, and protect the neighborhoods (such as public works, police, and fire service). Some of these conflicts can be eased by instituting traffic control measures to reduce traffic volumes and speeding on neighborhood streets.

Identifying Problem Locations

The City of Martinez should establish guidelines for implementing traffic control measures on local streets (see Table 5-1). These guidelines will serve to identify problem locations and will apply to local streets only. Streets classified as arterials or collectors are primarily to accommodate traffic flow and should not be subject to neighborhood traffic control. However, neighborhood traffic control may be appropriate where designated arterials or collectors which do not meet current standards or have fronting residential/uses.

The following paragraphs describe the three recommended guidelines. The Neighborhood Traffic Volume Threshold defines the traffic flow on a residential street (in vehicles per day) at which living conditions become unacceptable. Volumes over 1,500 vehicles per day represent an unacceptable level of traffic. The second guideline, Neighborhood Street Speeding Determination, defines where speeding problems exist on neighborhood streets and when control measures should be considered. The criterion for determining excessive speed is the difference between the posted speed limit and the observed 85th-percentile speed. The 85th-percentile speed is defined as that speed at or below which 85 percent of the traffic is moving. The third guideline is for determination of a high-accident location. The criterion is the annual accident rate per street or intersection. The annual accident rate is defined as the number of correctable accidents per location per year for the last three years.

Table 5-1
Guidelines for Identifying Neighborhood Traffic Problems

Neighborhood Traffic Volume Threshold

Residential Street Traffic Flow	Environment
below 500 vehicles/day	Excellent living conditions, no measures necessary.
501 - 1,000 vehicles/day	Good living conditions, no measures necessary.
1,001 - 1,500 vehicles/day	Fair living conditions, measures could be considered.
Over 1,500 vehicles/day	Poor living conditions, measures should be studied to reduce traffic volume.

Neighborhood Street Speeding Determination

Observed 85th percentile speed	Speeding problem
0-5 mph above speed limit	No problem, no measures necessary.
5 - 10 mph above speed limit	Moderate, measures should be considered.
10 mph above speed limit	Excessive, measures should be taken to solve problem.

High Accident Location Determination

Annual Accident Rate[1]	Measures
0 - 1.250	No measures necessary.
1.251 - 2.000	Location somewhat prone to accidents. Mitigation measures should be studied.
above 2.000	Location prone to accidents. Implementation of mitigation measures should be studied and installed.

[1] Reported correctable accidents per street per year for the past three years.

Methods of Traffic Control

Several methods of traffic control can be implemented to reduce neighborhood traffic problems. The best way to reduce traffic volume and speeding in residential areas is to use street redesign rather than signage. Signage, such as stop signs and speed limit signs, have little effect on speed. Stop signs only slow traffic down near the intersections that they control. Between intersections, speeds remain the same or even increase. Stop signs also increase noise and emissions due to the braking and acceleration of cars. Speed limit signs and turn restriction signs are often ignored by drivers unless they are rigorously enforced, which can be a burden to the police department. Stop signs can discourage through traffic. The proliferation of stop signs can lead to noncompliance, which creates a problem with accidents and enforcement. Thus, street redesign is the recommended approach to traffic control. The following is a brief list and description of street redesign alternatives (see Figure 5-1).

The ***median barrier*** is used at the intersection of a major and minor street to make all left turns and through movements impossible. A median island is constructed across the intersection on the major street; left turns can then be concentrated at places where they can better be controlled. This control technique can aid major street flow as well as increasing neighborhood protection.

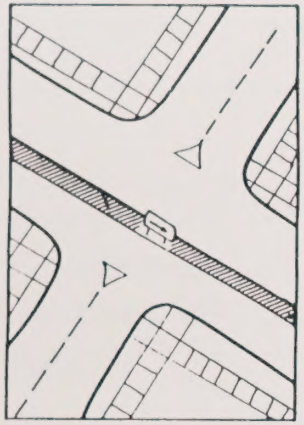
A ***diagonal diverter*** is a barrier placed diagonally across an intersection of two local streets to convert the intersection into two unconnected streets. Its primary purpose is to break up through routes, making travel through a neighborhood difficult but not preventing it. One advantage of a diagonal diverter is that emergency vehicles are not trapped as could be the case with a cul-de-sac.

An ***intersection cul-de-sac*** is a complete barrier of a street at an intersection, physically barring traffic except for local traffic on the open end. This is the most extreme technique for deterring traffic. Cul-de-sacs should not be installed indiscriminately because they create circuitous travel patterns and can hamper emergency vehicle access. Cul-de-sacs longer than 600 feet especially should be avoided. Designs can sometimes allow emergency vehicle passage, however.

A ***mid-block cul-de-sac*** performs the same function as an intersection cul-de-sac, but can mitigate the problem of excessive cul-de-sac length. A mid-block barrier is useful in locations where a high traffic generator borders a residential area. Any cul-de-sac should have the proper signs to prevent motorist confusion.

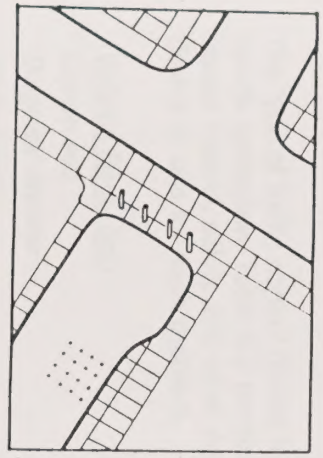
A ***semi-diverter,*** or half-closure, is a barrier to traffic in one direction of a street but permits traffic in the opposite direction to pass through. Since semi-diverters only block half a street, they are easily violated unless proper enforcement occurs. They do, however, provide minimal hindrance to emergency vehicles, making them more desirable in this respect than cul-de-sacs.

Undulations are physical devices with the primary purpose of speed reduction. Undulations are raised areas of pavement normally three to four inches high and eight to twelve feet wide. They are designed to be negotiated at speeds of 25 mph or less. In contrast, speed bumps are much sharper and should not be used on city streets.

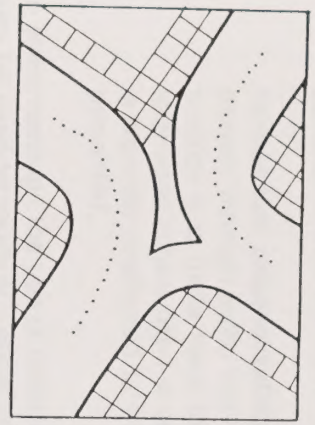


Median Barrier

Diagonal Diverter

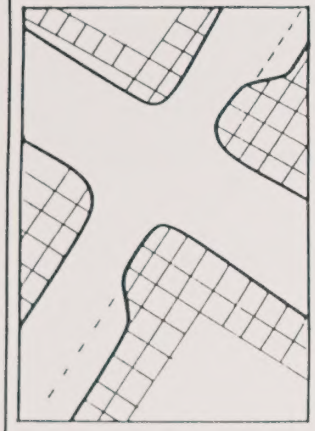


Intersection Cul de Sac

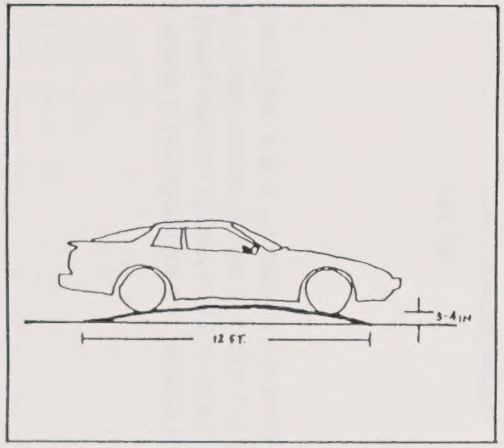


Forced Turn Channelization

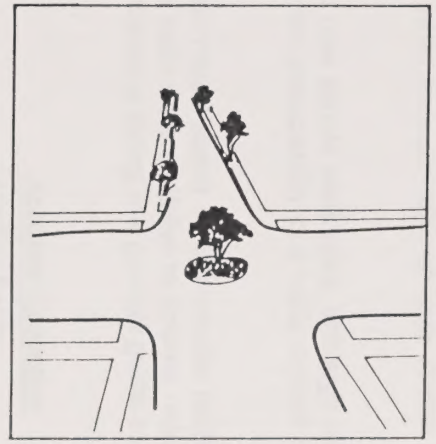
Midblock Cul de Sac



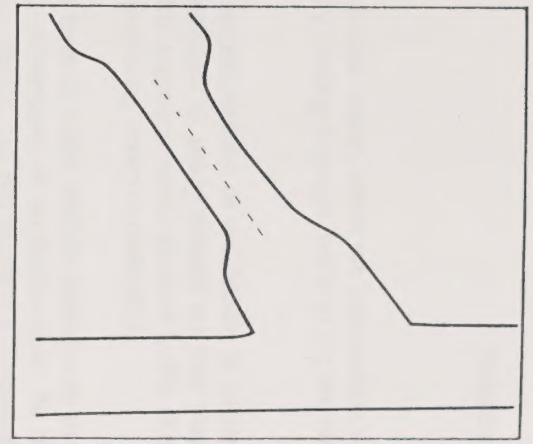
Semi-Diverter



Undulation



Traffic Circle



Choker

Figure 5-1

NEIGHBORHOOD TRAFFIC CONTROL DEVICES

Traffic circles can be created by building a circular island within an intersection of two local streets. The circles can reduce speeds by forcing through traffic to jog sideways around the center island.

A ***choker*** is a narrowing of a street, either at an intersection or mid-block, in order to reduce the width of the lanes. Widening the sidewalk or using islands are two ways to reduce roadway width. Studies have shown that narrower lanes do slow traffic down because drivers are more cautious when maneuvering room is restricted.

Forced-turn channelization usually takes the form of traffic islands specifically designed to prevent through traffic from executing specific movements at an intersection. Its basic function is to make travel through local streets difficult, but not prevent it. Generally, this technique is best used at an intersection of a major and local street, where the major street is basically unaffected by the channelization, while through traffic on local streets is prevented.

In street redesign the use of landscaping is preferred over simple barricades, although barricades may be used temporarily. Landscaping can enhance the acceptability of a traffic control device to the local residents.

The type of traffic control device to use should be determined based on the specific problem that needs correction. Table 5-2 provides an evaluation of each device relative to volume reduction, speed control, safety and other considerations. The following listing is a general guide as to which device to use for each problem.

Volume Reduction	*Speed Control*	*Accident Reduction*
Cul-de-sac	*Cul-de-sac*	*Median barrier*
Diagonal diverter	*Diagonal diverter*	*Turn channelization*
Semi-diverter	*Semi-diverter*	*Choker*
Median barrier	*Choker*	
Turn channelization	*Undulation*	
	Traffic circle	

When studying the type of traffic control measures to institute, it is important to consider two other issues. First, the implementation of a control measure on one street should *not* shift the problem to another street. Second, the residents of the neighborhood need to approve of the street redesign. Dislike of the control measure by the residents could result in disregard for the control measure or vandalism.

Table 5-2
Evaluation of Neighborhood Traffic Control Measures

	Median Barrier	Diagonal Diverter	Intersection cul de sac	Mid-block cul de sac	Semi-Diverter	Undulation	Traffic Circle	Choker	Forced turn Channelization
Volume Reduction	*yes*	*yes*	*yes*	*yes*	*yes*	*possible*	*no*	*no*	*yes*
Speed Reduction	*no*	*yes*	*yes*	*yes*	*yes*	*minor*	*minor*	*minor*	*no*
Directional Control	*yes*	*yes*	*yes*	*yes*	*yes*	*no*	*no*	*no*	*yes*
Noise	*decrease*	*decrease*	*decrease*	*decrease*	*decrease*	*increase*	*little change*	*little change*	*decrease*
Safety	*improved*	*shift accidents*	*shift accidents*	*shift accidents*	*shift accidents*	*adverse effects*	*little change*	*improved pedestrian crossing*	*improved*
Emergency and Safety Access	*minor constraint*	*some constraint*	*some constraint*	*some constraint*	*minor constraint*	*some problems*	*no problem*	*no problem*	*minor constraint*
Construction Effort and Cost	*moderate*	*moderate to high*	*moderate to high*	*moderate to high*	*moderate to high*	*low*	*moderate to high*	*moderate*	*moderate*
Landscape Opportunity	*possible*	*yes*	*yes*	*yes*	*yes*	*none*	*yes*	*yes*	*possible*
Maintenance and Operational Cost	*no unusual problems*	*vandalism*	*vandalism*	*vandalism*	*vandalism*	*debris problems*	*vandalism*	*no unusual problems*	*no unusual problems*

Implementation

The success of a neighborhood traffic control program is dependent on adequately identifying the problem, determining the proper traffic control device or devices, and achieving neighborhood consensus. To that end, the following steps should be followed when implementing neighborhood traffic control:

1. **Preliminary Study**. In response to a request from a Martinez resident, city staff should conduct a preliminary study to determine whether any stop sign warrants are met or neighborhood traffic guidelines are exceeded. If a stop sign would eliminate the problem, further study is not necessary. If the problem is larger in scope and if a neighborhood traffic guideline is exceeded, the study should continue to Step 2.

2. **Neighborhood Petition**. City staff should define an area that includes all residents directly affected by the problem. The area might be a single street, a neighborhood, or a group of neighborhoods. The interested resident or group of residents should circulate a petition asking the city to study and alleviate (if possible) the problem. The petition must be signed by more than 50 percent of the residents in the study area to signify majority support for the study.

3. **Detailed Study**. City staff should conduct a detailed study of the traffic problem and potential solutions. Staff should work with a resident's committee composed of a cross-section of the neighborhood in developing the recommended control program.

4. **Neighborhood Survey**. City staff should also conduct a survey to ascertain support for various alternatives prior to making a recommendation to the City Council.

5. **Trial Period**. Following review and approval by the City Council, the control program should be implemented with temporary devices for a three-month trial period.

6. **Reevaluation**. After the trial period, city staff should restudy the area to determine whether the traffic control devices have been effective. In addition, the city should conduct a survey of residents in the study area to determine their degree of satisfaction with the control program. If the devices have not worked or if a majority of residents disapprove of them, they should be removed. City staff may then elect to study other alternatives or to discontinue the program.

7. **Final Approval**. Assuming the control devices have been effective and enjoy majority support, the program should be considered for approval by the City Council. Following approval, the control devices should be made permanent.

6.
Goals and Policies

Goals

1. Develop and maintain an adequate street network
2. Protect neighborhoods from traffic intrusion
3. Provide adequate parking
4. Promote bicycle use
5. Encourage commute alternatives
6. Encourage pedestrian travel

I. Goal: Develop and maintain an adequate street network

A. Policy: Comply with Contra Costa Transportation Authority guidelines for transportation planning and growth management.

1. Establish a list of critical intersections and monitor their levels of service for compliance with growth management standards.

2. Establish Level of Service D as the standard in Martinez (V/C = 0.89 in the downtown; V/C = 0.84 elsewhere).

3. Require findings of consistency with level of service standards to be made upon approval of projects generating over 100 peak-hour vehicle trips or other policy adopted by the Contra Costa Transportation Authority based on an analysis of cumulative project impacts.

4. Require developer-funded street improvements in cases where their new development would have an adverse impact on the street system.

B. Policy: Provide adequate street capacity to maintain the highest level of service possible but in no case lower than Level of Service D in accordance with Contra Costa Traffic Authority guidelines.

1. Require developers to dedicate property and improve streets to provide full street-width in accordance with standards on adjacent streets in order to mitigate the impacts of their development.

2. Provide cross-sections in accordance with established standards when restriping or reconstructing existing streets.

3. Require that all construction activity be conducted in a manner and at a time when street capacity will not be seriously reduced.

C. Policy: Maintain the street network.

1. Establish a street inventory and maintenance program to repair and repave streets on a regular basis.

2. Require that any pavement that has been damaged or dug up will be returned to its original condition, with no bumps or ruts.

D. Policy: Minimize the impact of truck traffic on the street system.

1. Designate truck routes.

2. Ensure that adequate pavement depth, lane widths, and turn radii are maintained on the designated truck routes.

3. Confine truck-generating uses to industrial zones that are serviced by truck routes.

4. Require all truck-generating developments to provide off-street truck loading and parking areas.

5. Prohibit trucks from non-truck routes except for deliveries.

II. Goal: Protect neighborhoods from traffic intrusion.

A. Policy: Discourage through traffic and speeding on local streets.

1. Study locations where cut-through traffic or speeding may be occurring.

2. Install traffic control devices where appropriate.

3. Design streets in new developments to discourage through traffic.

4. Avoid building long, straight streets, which encourage speeding.

B. Policy: Discourage parking intrusion in residential neighborhoods.

1. Require sufficient off-street parking (see Goal VI).

2. Monitor locations where parking intrusion may be occurring.

3. Consider parking control strategies such as restrictions, signs, or permit systems, where appropriate.

III. Goal: Provide adequate parking.

A. Policy: Establish special parking programs for the downtown area.

1. Recognize that downtown businesses cannot provide parking on-site.

2. Create a downtown parking plan that specifies the size and location of required future parking facilities as well as their cost and financing mechanisms.

B. Policy: Require all new development outside of the downtown area to provide all parking off-street.

1. Establish appropriate parking ratios based on recent studies in the area.

2. Recognize that too much parking is as undesirable as too little.

3. Allow mixed-use projects a parking reduction where shared parking will occur.

C. Policy: Establish parking policies to support trip reduction goals.

1. Allow parking reductions for projects that have demonstrated a certain level of trip reduction via TSM.

2. Require projects larger than 25 employees to provide preferential parking for carpools and vanpools.

IV. Goal: Promote bicycle use.

A. Policy: Implement the bikeway plan.

1. Add bike lanes whenever possible in conjunction with road reconstruction or restriping projects in accordance with the bikeway plan.

2. Seek funding sources to implement the bikeway plan in locations where more than restriping is required.

3. Work with Contra Costa County and other agencies to implement the regional bikeway system.

B. Policy: Provide ancillary facilities necessary to encourage bicycling.

1. Provide secure bicycle parking at all parks, schools, and public buildings.

2. Require large employers to provide secure bicycle parking, lockers, and showers for employees.

C. Policy: Increase bicycle safety.

1. Sweep and repair bicycle lanes and paths on a continuing, regular basis.

2. Ensure that bikeways are delineated and signed in accordance with Caltrans' standards.

3. Ensure that all streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement and gravel.

4. Maintain curb lane widths of at least 14 feet (20 feet if parking is allowed) even on streets without bikeways.

D. Promote bicycle education.

1. Teach bike safety in schools.

2. Develop and distribute a map of Martinez and regional bikeways.

V. Goal: Encourage commute alternatives.

A. Policy: Maintain a Transportation System Management (TSM) ordinance that incorporates required policies as established by Contra Costa Transportation Authority and meets the specific needs of Martinez.

1. Review ordinance periodically to update trip reduction goals.

2. Require employers of significant size to meet the trip reduction goals.

B. Policy: Enhance and plan for transit needs.

1. Work with representatives of central and south County jurisdictions to develop Contra Costa commuterway.

2. Work with transit providers to obtain better bus service in Martinez.

3. Work with transit providers to provide bus turnout and shelters at bus stops.

4. Review development proposals for ease of transit access.

5. Require new developments to provide bus turnouts and shelters where appropriate.

6. Support the provision of ferry service to Martinez.

7. Support the provision of HOV lanes on I-680 and Highway 4.

C. Policy: Support intermodal transportation facility.

1. Continue to develop the AMTRAK station as a multimodal terminal to provide facilities for both local and intercity transit service.

2. Provide bicycle lockers and park-n-ride spaces at the multimodal terminal and at other locations around Martinez, where appropriate.

3. Work with transit providers to allow bicycles on buses, trains, and ferries.

VI. Goal: Encourage pedestrian travel.

A. Policy: Provide and maintain sidewalks where required.

1. Require new developments to include sidewalks except in rural residential areas.

2. Promote the addition of sidewalks to existing streets, except in rural residential areas.

3. Install handicapped curb cuts in existing street corners.

4. Monitor and repair damaged sidewalks.

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